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THE PROBLEM OF HIGH CULTURE AND MASS CULTURE[1]

It would be idle to pretend that Mr. Macdonald's article is not about a most serious problem. In this age of disillusion one of the most serious grounds for concern, one of the deepest sources of the disillusion is the state of popular culture, if by culture we mean anything more than the sum of intellectual, moral, aesthetic habits of a people in any given moment of historical time. For to many observers who are hostile to the political movement of democracy, the present state of popular culture justifies all their fears, and to believers in democracy, the state of popular culture deceives some of the most profound hopes of the democratic movement since the French Revolution. And at this stage of the argument it is not, I think, worth making the distinction between popular and mass culture that Mr. Macdonald usefully insists on. Where the optimists have been deceived and the pessimists confirmed in their pessimism has been in the kind of culture that the people now choose or accept, and it does not, at the moment, matter whether the 'people' and the 'masses' are identical concepts.

What were the hopes? They were the hopes that, as a result of the growth of democratic forms of government, the culture of the *élite* of

[1] A reply to Dwight Macdonald's 'A Theory of Mass Culture', published in *Diogenes 3*.

the privileged classes would be extended to the people, if you like to the masses. Given the egalitarian bias of democratic thought, egalitarian not on a mere pragmatic basis, but on a value basis and on an environmental psychology, the hopes of the revolutionary generations were natural enough. Discarding the notion of natural inequality, discarding the claims of the existing aristocracies as based on accidental or tyrannical privilege, the early democrats were forced by passion and logic to believe that the visible differences between the culture of the courts, of the privileged orders, and of the peasantry and craftsmen were entirely artificial. And they could assert (as Rousseau and his disciples sometimes did) that the true cultural advantage lay on the side of the people or, while holding to the intrinsic superiority of the 'high' culture, assert that it should be and could be, to quote Wordsworth, a 'joy in widest commonalty spread'.

The first doctrine had many distinguished defenders and exponents after Rousseau. The collectors of folklore, the collectors of ballads, the preachers of the merits of Gothic (oddly seen as a primitive folk art, the work of anonymous teams, imitating the Germanic forest as Emerson thought), were all critics of the exclusive claims of high culture. Tolstoy, going to the peasants and mowing with them; Mark Twain as the 'Innocent Abroad'; both these men of genius were denigrators of the traditional high culture which was, for them, simply one more expression of the tyranny and exploitation of the people by the few. When Tolstoy said that all that the poor wanted of the rich was to get off their backs, he was speaking in more than crude economic terms. Like Mark Twain he had a special scorn for that highly exclusive and aristocratic and conventional art, opera. And there were many democrats and demagogues who followed these men of genius down the same road. The type we have still with us the defender of the value of what the people apparently like because they like it, the snobs in reverse who show their superiority by their knowledge of what are, to the intellectual, esoteric arts, from bebop to tattooing. Of these it will be necessary to speak later in the modern or mass context. But they were not, in the development of the modern scepticism of the value of popular culture, nearly as important as were the disillusioned optimists.

To them, the fact that the peasantry, the craftsmen did not participate in the high culture was simply explained in institutional terms. The people were debarred from participation in the high culture by poverty, by illiteracy, by caste barriers. Thrown down the barriers and the great reservoir of natural good taste and of uncontaminated originality could be

tapped. The conception of 'the mute, inglorious Milton' popularised by Thomas Gray (of Eton and Peterhouse) in the *Elegy written in a Country Churchyard* is simply the most famous expression of this view in English, as the two comedies of M. Caron de Beaumarchais are in French. Nor was it a matter only of literary fashion. The age of Gray and Beaumarchais was the age of Franklin and Burns.

It would be possible but superfluous to give any more examples. This belief that the undoubted benefits of the high culture could be extended to vast bodies of men now excluded from them was the faith of Jefferson and Condorcet, of the National Convention, of the American democrats. It should be noted, however, that neither Jefferson nor Condorcet, Jefferson less perhaps than Condorcet, believed that the high culture would be available to or accepted by all. It was not in fact available to nor accepted by nor utilised by all or nearly all the privileged classes exposed to it. But if there was no reason to believe that all could attain the high culture, that was no reason to deprecate the value of that culture or deny access to it to the great bodies of men artificially excluded from it. The 'geniuses', as Jefferson put it, were to be a natural *élite*, not the *élite* that feudal artifice had produced. Talents whether you had ten or one (the origin of the word was then better remembered) were to be used to the full. None was to be compelled by political and institutional bad arrangements to wrap a talent in a napkin or bury it in the ground.

And as the democratic movement spread, was reflected in institutions, in law, in customs, in more general education, in cheaper books and newspapers, great masses of men and smaller groups of women did in fact pass into the magic circle; they became in varying degrees 'cultured'. These were the days of societies for general self-education, of pamphlets and tracts which were 'digests' of the higher culture; of self-made scholars teaching themselves by candle light even in the depths and darkness of the mines; of 'self-education' and 'self-improvement'; of new folk heroes like James Watt and Elihu Burritt; of the 'Ligue pour l'Enseignement'; of the Russian intelligentsia 'going out to the people', but not in the Tolstoyan sense of merely learning *from* them; of the political optimism of the Benthamites about the results of education in democratic organisation; of the more narrowly cultural optimism of Ruskin and William Morris, of Anatole France and Jean Jaurès lecturing in the *universités populaires*. Like many other things, this optimistic view was out of date by 1914 when the old world began visibly to crumble. For it began to be noted that the first use of the new facilities was not the striking of a gusher

of new talent or genius, but the destruction of the old popular culture by a new culture that was neither a folk culture nor the old aristocratic high culture now made available to and no doubt modified for the better by the natural *élite* of the people. For as far as the people produced recruits for that *élite*, they ceased to be of the people. They might stress their popular origins, but that did not alter the fact that the Café Royal, Sicily, Taos were worlds away from the Midlands where Lawrence was born and that Péguy, by scorning vulgar commercial success, was, perhaps, putting himself more out of touch with his 'people' than if he had made a 'success' of himself. Nor in fact did an immense gusher of new talent flood the parched fields of the old high culture. In 1900 it was possible to say that of the great English poets from Chaucer on, only three, Shakespeare, Keats, and Browning, had not gone to Oxford or Cambridge, and in the case of Browning that was an accident. It is still true. In France it was not so true, but Péguy, if a failed *normalien* was yet a *normalien*, and the two French writers who, in modern times, have excited most interest in France and abroad were not merely bourgeois, they were rich. What had the culture of Proust and Gide to do with the people? Nothing, and even when it was the policy of the French Communists to exalt Gide it was not their practice to read him.

This was the first disappointment and it was connected in its origins, I think, with the second, with the discovery of what the apparently spontaneous taste of the people was; it was for the worst sides of the taste of the bourgeoisie. This could be illustrated in many ways, one will suffice for it struck at the very heart of the political and cultural optimism of the democratic movement. In that movement, the place of the press was central. It was as important as democratic political institutions themselves. It was to be the great source of popular education. The agitation for the removal of taxes on newspapers was conducted in England under a slogan that can only evoke ironical laughter today. 'Abolish the taxes on knowledge.' Today the newspaper with the largest circulation in the world, *The* (London) *News of the World*, concentrates on sex, crime, and sport. The American paper with the largest circulation, the New York *Daily News*, does the same, and as Mr. Macdonald points out, is probably far more representative of the tastes, if not the strictly political views of its readers, than any 'liberal' or 'radical' journal has been.

I am in agreement, that is to say, with Mr. Macdonald's view that what he calls 'mass' culture is without any serious value; it is shallow, evasive, often bad in its own terms and performs no more important cultural

function than does tobacco. I will admit that it is habit-forming in a more serious way than is tobacco and often, though not always, forms an exclusive habit, one that excludes the possibility of other and, by the old tradition, superior forms of culture. To adopt the American idiom about tobacco (saying 'I don't use it' instead of 'I don't smoke'), one may say that the attitude of the addicts of the new mass culture is 'I don't use it' when confronted even with deodorised high mass culture, as in the album of gramophone records recently published in America under the title *Classical Music for Those Who Hate the Classics.*

That there are forms of culture not identical with mass culture and not identical with high culture I will assert, and my first reason for not being pessimistic as is Mr. Macdonald is that I think these distinctions are worth making. That is, we have to face not only mass culture, the poorest films, the silliest television, the most imbecile comics, but the problem of what value there is in the popular culture that (if I understand him aright) Mr. Macdonald condemns equally severely (at any rate in its contemporary form, for he has kind words for such stars of popular culture as the Chaplin films or the popular vaudeville of twenty-five years ago).

But my second reason for not being pessimistic (and the one I propose to deal with first) is that I think that Mr. Macdonald, so grimly critical of the present in America, is too kind to the past in America and to past and present in Europe. Mr. Macdonald rightly distinguishes between high culture and popular culture, in this being undemocratic enough to be sensible. The high culture that we treasure and that we see endangered has never been popular in either sense of the word. We have moved far from the romantic idea of Homer as a ballad singer or even the collective name of a committee of ballad singers. We have abandoned the idea of groups of anonymous craftsmen building Chartres, as we have abandoned the idea that the sculptors of Chartres worked that way because they were simply craftsmen not properly trained in the Beaux Arts tradition. We have abandoned in more modern times the belief that there *must* be this pool of hidden genius which general education can make available to us.

But we have not abandoned the idea that folk art was abundant and good and that its death has left the masses incapable of high art and deprived of the sustenance they got in the past from their own folk art. That there is some truth in this is evident. There are in museums, in antique shops, in rich, private houses enough products of folk art of all kinds to justify a modestly high opinion of its value. That there were many good craftsmen at work on cathedrals and churches and town

houses is evident, craftsmen who probably would not get a chance to do that kind of work today. That there were illiterate 'literary' talents behind the ballads in many cases is probably true. But even in the Middle Ages, even in the Dark Ages, the great themes, the basis of the folk culture as of the high culture, was aristocratic. Roland, the 'Quatre Fils Aymon', Arthur, Maeve, Siegfried, Igor, these are princes or queens or heroes; they are dramatised or heightened versions of the life in court or castle. The peasants could look up at them, as they could look up at the sculptures on the façade of Chartres or Saint-André-des-Champs. They celebrate '*le donne e i cavalieri*', as in Ariosto, the sins of popes and princes, as in Dante. We should at least contemplate the possibility that what we call high culture owes its possibility to a considerable degree of leisure that permits of the acquisition of the necessary knowledge for appreciation of the products of the high culture. We should at least contemplate the possibility that mass popular taste has never been positively good, even if it was not given the chance to be as positively bad such as the mass media provide today.

The ballad form is, when all is said and done, a primitive form; most ballads are dull and repetitive, as a cold study of the great collections would show. In what way is the farce of the minor Elizabethans better than the burlesque of today? The comedy even in Shakespeare is often a tickling of the ears of the groundlings that may have come off in 1600, but is tedious in the extreme today. If this scepticism of mine is justified, then we are not forced to be totally pessimistic today as we contemplate the level of popular taste or even the fact that mass art has killed the possibility of genuine self-produced art. However morally edifying it might be, it might also be dull, thin, naïvely moralistic or naïvely hedonistic. It might, except in its source, be much like what commerce provides today. We do not know this to be true, but we do not know that the dogma of the natural good taste of the primitive peasant or craftsmen is true either. It is not only no use crying over spilt milk, it is worse to cry over the spilling of what may have been buttermilk at best. The arts, even the popular arts that we inherited, came down from an aristocratic society in which the most valuable things now left to us were the work of highbrows of the intelligentsia, employed for mixed reasons by kings, popes, capitalistic republics like Florence and, a little later, by the direct ancestors of the modern businessman. And I think most people who have seen the efforts made in modern times to revive, or as it is usually put, to 'save' the old popular arts will agree that the average peasant or craftsman

today has little or none of the enthusiasm for his inheritance that his middle-class admirers attribute to him. In more than one case it has been necessary to *teach* the carriers of these traditions the meaning, the existence of the traditions. 'This tradition goes into effect next Monday' is, to borrow from a celebrated American anecdote, the attitude of many middle-class or even upper-class savers of the old cultural order.

This is not to say that the existence of a living popular tradition may not be of value. Thierry-Maulnier has pointed out how much French literature or, at any rate, French poetry has suffered by the complete breach between popular and cultivated taste. (Of course Thierry-Maulnier makes his point in part by firmly excluding from the body of French poetry authors whom a great part even of the French cultivated classes think are real or even, as in the case of Hugo, great poets.) Burns was far from being an unsophisticated peasant. The language he wrote was an artificial literary dialect spoken nowhere, but it had the air of being popular speech and so linked the real folk art with real sophisticated art. This was probably a good thing though the genius of Burns has been an excuse for a quite remarkably large production of *Kitsch* plus *Schmalz* in my native land. It may be that in Athens the voters had good and high-brow taste. The success of Aeschylus, Sophocles, Euripides, Aristophanes suggests that they had. But not only could the slaves not vote, but the member of the sovereign Demos had a lot of leisure. And in any case we owe our knowledge of the Athenian drama to the high-brow collectors of manuscripts and makers of anthologies. If we had the whole body of Athenian drama, we might find it as dull as the mass of the Elizabethan drama is, or a great part of the immense output of plays in France is. If literature is abundant, we can be pretty sure that a great deal of it will be bad, including some of the greatest successes. Our situation today may be so gross an example of a common situation that our case is desperate; but it is not novel or unique.

Another and more paradoxical reason for not sharing Mr. Macdonald's complete pessimism is that he exaggerates, I think, the bad eminence of the United States. Much of what he says is true of England, of France, of Italy, of Germany. It takes all kinds of pressure to prevent the complete Americanisation of European culture. We may despise the slick Hollywood productions, but the mass of the English, Irish, French, Italian masses don't. It is not only in America that the television masts are thickest in the poorest streets. Go to London by rail and see them thick over the roofs of the slum houses that lie around Liverpool Street or

Victoria. *Horizon* may have been sold on station bookstalls, but it failed just the same. The flood of new critical reviews in Paris is an interesting phenomenon and an even more interesting financial one. But it not only represents an old and honourable French tradition that has no real parallel in either England or America, it also represents an aspect of French life that is less admirable, its bitter party spirit, for all of these reviews have a party or personal colour. More separates *La Table Ronde* from *Les Temps Modernes* than different literary taste, and the revival of *La Nouvelle Revue Française* has an immediate political interest that the revival of *Horizon* could not have. Over the French literary scene hangs not only the nimbus of a genuine devotion to literature, but a black cloud of hate; the ghosts of Drieu la Rochelle and Robert Brasillach are at this banquet of the intelligence.There are special circumstances in the American scene, and I shall deal with some of them later. But the difference between the American and European scene is not so great as to give me much hope if we are forced to despair of America. We are all in the same boat; all bailing out together.

What are the special circumstances of the American situation? I have already asserted that they do not produce a fundamental difference between Europe and America, but they do produce differences. The first is that it has been necessary to create a popular culture for an urbanised society that does not inherit a common national tradition, even an obsolete national tradition. All western societies have to create a new urban tradition because the fact of an urbanised society is new in England and Germany as well as in the United States. But they have not had to create a unified national tradition. The Americans have had to do both, to make the change from rural to urban culture and to create a unified urban culture to be 'sold' (in the special American sense of the term) to a population with recent roots in Sicily, Norway, Ireland, Kentucky, Croatia. To do this it has been necessary in the educational system to teach a thin, uniform, 'homogenised' culture, a highest common denominator culture, and the common denominator naturally cannot be very high. This explains the emphasis on literary mediocrity or worse. A versifier like Whittier is not a good poet, not perhaps a poet, but he may be politically useful, so may more modern authors like Stephen Vincent Benet, so may bad historical novels and films. It is very hard to distinguish between the grounds of approving or disapproving of an author when the grounds of judgment are necessarily confused. It is not improper to use authors this way; it is improper (and a critical sin often committed

in America) to transfer the political approval that such writers earn for their utility into an aesthetic judgment. But it is a sin often innocently committed. Even Mr. Macdonald commits it, for he contrasts the original *Atlantic Monthly* with the present *Atlantic Monthly* in terms that suggest to me that he overestimates the original and so is possibly unjust to the contemporary. It is only in the American context that the list cited by Mr. Macdonald is so impressive. Of the stars is any but Emerson of any general importance? What can a Frenchman or a German make of Lowell or Holmes? What should he make of them? The fact is (a point I shall come back to later), American literature by itself is not weighty enough to support at a high level the burdens Mr. Macdonald would impose on it. If he doubt this, let him contemplate what a review like the *Atlantic Monthly* published at the same time in Paris or London could have offered its readers. If it be said that no one review in Paris, for example, could have got Baudelaire, Sainte-Beuve, Flaubert, Taine, Michelet, Hugo to contribute to itself, that underlines another point, the strength of the New England *literature*, their unity, their common membership in a small, homogeneous (not homogenised) provincial society, and that is the reason why that New England culture, the 'genteel tradition' was inadequate for the urban, non-homogeneous American society of the twenties.

The second special weakness of the American cultural position is that it is part of a bigger cultural tradition that for the convenience of shorthand I shall call 'English'. The American poet is competing with perhaps the longest and richest poetical tradition in western history. The novelist, the critic is competing at any rate with an old and rich tradition even though he is better off than if he were competing with the French tradition. And American high culture in general is competing with mass culture but often has to do so and would be foolish not to do so with what are, from the national point of view, borrowed weapons. And this state of affairs strengthens the forces in American life that make high culture suspect and foreign. I do not for a moment wish to assert that the average English boy or girl 'understands' Shakespeare, even if he has been born in Shakespeare's native county of Warwick (chief city, Birmingham). But he is less cut off; if he has some natural taste and talent, he comes more easily to that admiration, that reverence for supreme achievement which is part of the high culture, its foundation and its achievement as well.

There is one last handicap that affects American high culture. In cultural as in other matters the American is irreverent. It is not accidental that the

one American author whom the disciples of the high culture and of the popular culture both admire, Mark Twain, wasted a great deal of his life, and not only in *The Innocents Abroad*, in debunking (a most American word) the pretensions of the high culture. It was dull (as in Jane Austen); politically dangerous as in Sir Walter Scott; obscene (as in Titian). And this was the attitude of many who had not written *Huckleberry Finn*. Even so liberated a spirit as Hawthorne shows astonishing limitations in a man of his calibre in *The Marble Faun*. Politically I am prepared to defend the American high school, but high culture is put not on the defensive but driven into full retreat when Shakespeare and secretarial science (stenography) are treated as equal 'skills', equal means of access to 'life, liberty, and the pursuit of happiness'. (Of course they are not; secretarial science and machine-stop practice are for most pupils *real*. Shakespeare is not.) European high culture gains by the surviving if decaying aristocratic tradition. It suffers, also, for those traditions foster and support academicism. There are other special features of the American scene that give support to Mr. Macdonald's thesis, but I think I have dealt with the most important of them. America exaggerates or is a pioneer in a change in the cultural atmosphere which is serious enough but which is not as deadly as he suggests. For we must remember, again, not to idealise the past; if we do we shall rightly despair of the present.

We should realise that a general habit of reading at a high level has never existed in the past and may never exist in the future. General reading of any kind is a novelty. When an English peasant a generation ago said, 'I'm no scholar', he simply meant that he couldn't read or at any rate couldn't write. Even today with education 'universal' over the western world, a great many people cannot, in any real sense, read. Nor do they feel the lack unless some external pressure reveals it to them. Thus the coming of conscription in England has brought out a startling degree of illiteracy. But it has also shown that a good many conscripts who found that they could hardly exist in the army, certainly could never get out of the awkward squad, learned to read but for purely practical purposes. For most of them at any rate the 'comics' continued to be the only books they needed. (The now nearly universal application of the word 'book' to any printed matter other than a daily newspaper is of some significance. *Life* and *Mickey Mouse* are both 'books' in England and America.) The standards of high culture have been created in the past by what used to be called in the twenties the *literati*. The whole western educational tradition was literary. We have plenty of evidence that for very many of those

subjected, for social reasons, to this education, it was a waste of time. The college graduate who 'never cracked a book' after he graduated existed before Columbus discovered America. The *literati* have ignored the fact that reading at a high cultural level has always been a minor side of life for the majority even of the privileged classes. It neither surprises nor shocks me that America spends so much more on sport than on books. All societies in the past have done so. Louis XIV no doubt enjoyed Molière and patronised Racine, but he enjoyed hunting more than either. Nor is this all. The place of literature in the national culture can vary greatly from country to country. English and French cultures are overwhelmingly literary even though France was pre-eminent in architecture in the Middle Ages, and, in much more recent times, in painting. But other cultures are not necessarily predominantly literary. Where was German literature in the age of Leibnitz and Bach? Where was Italian literature in the age of Vico or in the old age of Verdi? There are also in cultures periods of occultation that may last a generation or more, periods of sterility or of barren experiment. There may be explosions of literary production as in nineteenth-century Russia or twentieth-century Ireland. It is true that Mr. Macdonald deals by allusion with the other arts, with painting, architecture, with at any rate popular music. But his main thesis is the degradation of literature (including the drama) by the mass media serving or creating mass culture.

It is with one implication of Mr. Macdonald's article that I shall conclude. He assumes that today there is nothing between high culture and mass culture, between the masterpiece and *Kitsch*. Again I suggest that this pessimistic view of the present is in part held because of too optimistic a view of the past. There are few masterpieces even in English and French literature. A great part of the 'classics' in these literatures is second or perhaps even third rate stuff. It is not fourth or fifth or tenth rate. That a great deal of what is admired uncritically today will seem feeble or worthless tomorrow is true. That a great deal that is excessively admired today will be moved down the scale is certain. Tennyson was overestimated, then underestimated but at no stage was he Eddie Guest or Martin Tupper. Trollope had the same fate and is probably a watered stock at the moment. Certain minor but interesting writers can either be treated as Peacock is, as a minor master or as a pedantic trifler. It is useless and pointless to hope to get a final judgment on cases like this, to understand why Meredith was so highly esteemed or is so completely neglected today. An author may be fantastically variable in quality by modern

standards as in the case of Barrès. But it is worth while discriminating or attempting to discriminate. For example, both Arnold Bennett and Zola, both overestimated in their life-time, will come back, have come back as serious if lesser writers. It seems to me that the only harm done by the exaltation of the obviously second-rate is the destruction of standards in appreciating the first-rate. Mr. Macdonald is rightly scornful of the exalted rank given to Mr. Maugham in America, and there was something comic in the solemn reception of one of his manuscripts by the Library of Congress. And Mr. Maugham's arrogance is such that it is difficult to be just to him. But we had better try and we should remember, in any case, that the judgment of one country on the writers of another is peculiarly likely to exaggerate merit or to ignore it all together. It was not the British Museum that solemnly received the Maugham manuscripts; it was no American authority, not even *Time*, that chose to give the Nobel prize to Mrs. Buck. We must allow in all literary pages for a great deal of waste, for the years in which Gerard Manley Hopkins was unpublished, for the years in which Stephen Phillips was admired. It is as much as we can do to try to reduce the blurbs of publishers, the yells of reviewers to some due proportion, to ask book critics to remember the great achievements of the past before we acclaim a new Balzac, a new Jane Austen, a new Dickens, a new Alain Fournier.

Whether things are worse today than they were a generation, two generations ago may be doubted. It is a century since Macaulay used Robert Montgomery as a sample of what puffing could do and did, for Montgomery did not suffer in reputation. His readers did not read the *Edinburgh Review* any more than the uncritical admirers of Mr. Marquand read *Partisan Review*. Nor should we forget that not all *avant-gardes* avoid the blind alley. It is possible to believe that in his last work Joyce was his own *epigone*. Literary history is full of novel, brilliant, false starts. Writers have always found it hard to get published and live without becoming hacks. Some have become hacks, hacks of genius like Dryden and Johnson. Others have had patrons, have had jobs in government, have been fellows of colleges, deans of cathedrals, some, a few have been wealthy like Browning (and Cézanne). Some are doctors, some insurance executives, some high officials of the Quai d'Orsay. In every age the problem arises in new forms, the annals of Grub Street are always new; the candidates for admission to the *Dunciad* embarrassingly numerous. Carlyles will be born before Keatses and live full of honours into the administration of Chester Arthur. But these accidents have not killed poetry, only poets.

And again, the *literati* make literature too exclusively their criterion. It may be in a bad way in the United States today compared with twenty-five years ago, but music is in a much better way. Whereas it does not matter much whether books are well or ill printed, it does matter a great deal whether music is well or ill performed, and who can doubt the general improvement? We have to guard against the nonsense that takes *South Pacific* as a serious work of art, but fewer people take *South Pacific* as a serious work of art in 1953 than would have done so in 1923, fewer confuse '*Voi che sapete*' with 'I'm in love with a Wonderful Guy'.

It is not going to be easy; it never has been easy to uphold the standard of high art. It is perhaps more difficult to uphold them in a democratic society where what I may call the Kinsey theory of morals is applied to the arts as well, decision by majority practice. There are special technical problems presented by films and television. (The fact that Mr. Macdonald's heroes are producers suggests that there are. Who produced *Hamlet*, who the *Misanthrope*?) The serious artist has always been tempted or coerced by kings as well as by the slick paper magazines. It was not of a victim of Henry Luce that it was written:

All for a handful of silver he left us.

We should clear our minds of cant, as a hack writer, Dr. Johnson, put it (he was also for a great part of his life an anonymous writer). The danger is within us. The danger of inverted snobbery, of seeing in inferior forms of literature the fresh runnings of a new culture when it may be only the lees of the old. Between academicism and vulgarity, pedantry and philistinism the course is narrow and dangerous. The sirens have always been singing. The world of letters is full of things new and old, most not very good but not all to be despised. For as a minor poet and great scholar, A. E. Housman put it:

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Jean Fourastié

PREDICTING ECONOMIC CHANGES IN OUR TIME

Some observers are surprised by the fact that economic phenomena occupy an increasing place in the average man's concerns. Has not economic life been the necessary basis for man's physical existence since the most distant times? Have not agriculture, industry, business and finance been in existence for thousands of years? Do not the nations' standards of living, and even their manner of life, depend necessarily on their production?

We all know, to be sure, that humanity took many centuries to become aware even of those realities which are most fundamental to its existence. All the sciences are recent; why should not this be true of economics as well? What is unique to economics, however, is not so much that the science is new; it is rather that the *need* for that science should be felt today by even the least citizen.

Progressively throughout the course of the nineteenth century, and bulking large in our own time, economic problems have encroached upon the thoughts of the governing classes, then upon those of the average citizen. We are now at a point where political problems, both foreign

and domestic, are dominated by such considerations as production levels, crises, unemployment, currency, foreign trade, purchasing power—all matters which formerly intruded upon history only episodically. Furthermore these problems often take a tragic aspect: interests clash, and each side advances a contradictory solution; governments turn to trial-and-error methods or to one of mutually opposing doctrines. The results of these interventions are often quite the opposite of what was expected: passions are aroused, battle-lines are formed; devaluations of the currency, political unrest, strikes, tariff barriers, wars, are the all-too-frequent result of disorders which were at first hardly noticeable but which, since they are often poorly understood and always inadequately resolved, break down into serious maladies. The life of such great nations as France and Italy is almost overwhelmed by such troubles; the growth of the underdeveloped countries is stifled by them; world social progress is paralysed; they shake the philosophic, political and social foundations of the liberal West. In no other field of action does science lag so far behind the needs of man.

This is not a chance result. Our need for knowledge and the difficulty of establishing our science spring from the same source. This source is the instability of economic conditions, that is, the excessively rapid change of the fundamental factors of economic life, as measured on the scale of human existence.

In the eighteenth century, and to a considerable extent still in the nineteenth, economic conditions were as imperious as they are now, but they were *stable*. The workday was long (from ten to fourteen hours), but it was constant. Purchasing power was low—a pound of bread cost a labourer one wage-hour—but it was about the same in 1800 as it had been in 1700. The crises themselves, dearths and famines, followed each other showing kindred characteristics; and the same sufferings resulted from the same causes. Above all, occupations were stable; entering his father's occupation, cultivating the same field, sowing the same seed, a man achieved, in good years and in bad, about the same living-standard as his forebears. This stability, or more exactly this slowness of transformation in the essential economic conditions, made it possible both for the average man to understand his own economic life intuitively, and for the expert to analyse it at ease in scientific terms: Vauban, Quesnay, Adam Smith, Lavoisier built an economic science which was valid for their own times.

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industrial revolution, however, *things began to change*. They moved more quickly still, and even more astonishingly, after 1900 and after 1930. The average man no longer understands what is happening to him. Even if he continues his ancestral occupation, he may be ruined; driven off the soil, uprooted, countryless, forced into the class without property, he ceases to perceive the concrete connexion between his production and his consumption. Instead, he now perceives only the wages-consumption relation, with the result that his aim in life is no longer to produce, but to earn money. The instability that drove him off the soil pursues him into the factory. He is faced by economic crises of a new kind—called crises of overproduction—and by unemployment, by the obligation to adapt himself constantly to new machines and new techniques, often to new lifeways; and above all looms the *necessity* of constant social strife, the feeling of frustration and injustice, strikes, factory shutdowns, and within forty years, ten years of war . . . . The average man no longer comprehends the rules of a game which he must play in spite of himself, and turns in anguish to the economist.

The economic doctors are, however, themselves the pawns of this fearful game. The statistician, bent over innumerable figures, drawing innumerable charts, does little more than record powerful, rapid, and disorganised movements. Bristling with peaks, summits, plateaus, precipices, valleys, and ravines, the learned empiricist's curves look like a transverse section of some fantastic road leading from Paris to Brisbane through the Alps, by way of the Himalayas and along the ocean's floor. The theoretician then seizes upon some of these many-horned graphs, schematises and rationalises them, 'fits' them as the dressmaker does our wives, and from them he then draws mighty theories wherein the observable world plays about the same part as does the furniture in a tragedy of Racine's. Neither the empiricist nor the theorist can disengage from the whirling mass of countless economic data those rules of the game so necessary to the average man, the distinguishing mark of which would be that they would *permit foreknowledge*.

Thus, when economic science was easy to construct, it was all but useless; today, when it is so necessary, it seems hopelessly buried in its own ruins. Economic happenings are moving too fast for us to get a mental grasp on their laws; no sooner have we brought an important phenomenon to notice than it is supplanted by another which was formerly quite negligible, much as a cyclonic depression forms within a few hours in a beautiful tropical sky. The economist today finds himself in a situation

comparable to what Newton's would have been, had he sought to discover his famous laws in a world where the gravitational constant was constantly changing.

Must we then conclude that economic science is not possible in our present world? By no means. We want to show, on the contrary, that if economic research is willing to restrict its ambitions, through a clear awareness of the conditions which are laid down for it by the reality of the observable world, it can achieve results which are not inconsiderable. Even in a rapidly changing universe, some predictions are possible.

A few figures will be useful to suggest concretely the possibility of such advance knowledge.

Those economists who have studied prices have studied the 'general movements' of prices. From these, they have drawn several thousands of those bristling curves I mentioned above, and some dozens of theories. But no prediction. To sum up, if the general index of prices, on a base of 1913 as 100, is found to be 14,230 in France today, this fact is connected with so many causes that no one could catalogue them, and still more, certainly, no one could foresee their changes well enough to deduce a prediction from them concerning the index itself.

Could we not, however, take up the study of prices from another of its aspects? About 1820, in France, one kilogram of linden (flowers for making infusions) exchanged for 0·6 kilograms of soda crystals; in 1950, for 20 kilograms of soda. Around 1750, eleven square metres of Gobelin tapestry were the exchange equivalent of a looking-glass of four square metres; in 1950, 0·1 square metres of tapestry would exchange for the same-sized mirror. Ten kilograms of potatoes were exchangeable for one kilogram of wheat in 1820; in 1950, only two kilos of potatoes. Are these merely anecdotal facts, as the few economists who have perceived them seem to believe, or are they rather examples which point to certain underlying structural movements, which would be generative of predictions, and which an analytical study could reveal?

In order to explore this possibility, we shall rapidly survey the domain where we may hope to find predictable facts in social and economic matters, and we shall then indicate the framework which, at present, seems to us to permit an access to substantial results, verified by daily observation.[1]

[1] Readers who are not interested in the problems of scientific methodology, but only in the concrete results of our studies, can dispense with the reading of the first part of what follows.

I. *Efforts to Increase the Scope of the Predictable in Economic and Social Matters*

Classical economics and the social sciences in general have thus but rarely arrived at an explanation of facts which would be sufficiently exact to give rise to predictions. It will be useful to specify the causes which make economic events in particular, and human events in general, seem to be unpredictable, in order to find out whether we cannot eliminate them or at least reduce them in certain areas.

Why do human events seem to be unforeseeable?

It is not hard to find the immediate causes of the unpredictability of economic happenings. Long ago, scientific methodology taught us that an event is predictable or determined when we can precisely know its laws, that is, its elements, conditions, or causes, then the changes in each of them. In all other cases, the event will remain unpredictable, either because its elements themselves remain unknown in whole or in part, or because the elementary factors, while all identified, are themselves subject to unpredictable change.

Sociologists, imitating the physical sciences, thus seek to identify the causes—all the causes—of the phenomena they study. They think that there is no science outside this search for unalloyed determinism, no middleground between darkness and light, no transition between certainty and ignorance. They exhaust themselves, accordingly, trying to encompass global problems, general movements of prices, crises, foreign trade, money, credit, monopoly, competition—and of course never succeed in even enumerating with precision the innumerable factors involved.

A fundamental fact is, however, beginning to come to light: this is that in social and economic matters, as in matters of physical science too, no doubt, there are stages between the determined and the indetermined; certain facts are aleatory[2], others are conditioned[3]. An immense domain is thus opened up to prediction, on the condition that man be satisfied with something less than a deterministic form of foreknowledge.

By being less ambitious, by not trying always and everywhere to find a rigorous determinism, and by not trying to bend nature to our requirements but on the contrary bending our conceptions to fit nature, we can extend the field of our knowledge and its efficiency. Let us then examine objectively, but without too much pessimism, the grave difficulties which are peculiar to the social sciences.

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[2] Pierre Vendryès, *Vie et Probabilité* (Albin Michel).
[3] Von Neuman and Morgenstern, *Theory of Games* (Princeton University Press).

A. The Factors to be Considered Are Innumerable. It is just as much of a delusion, in the present state of science, to expect to find all the factors that act on the general movement of prices or on economic crises, for example, as it would be to claim that we can find all the causes determining the behaviour of man during the course of a month or a day in his life. Actually, these causes are too numerous, too fluctuating, too ephemeral. The general movement of prices is influenced by political, social, psychological, financial, and statistical factors; by banking, by commerce, by technical considerations . . . Each of these covers a sea of component elements, all more or less active; for example (a commercial factor) the index will be lowered by 0·01 per cent at Paris because a merchant in Conakry (West Africa) sold a large part of his stock of bananas at once; in the same way (technical factor) the index will go up by 0·02 per cent because a drought went on for eight more days in the central Canadian plains.

The scientific problem which an economist must solve is exactly the same as an observer would encounter in foreseeing and explaining the use I shall make of these present morning hours. This observer would first have to know my biological, psychic, intellectual, and moral antecedents, and to know them in great detail (heredity, distinguishing characteristics, intellectual attainments . . .). He would have to catalogue the sensory and spiritual factors which lead me to spend my summers in this village in Quercy and the place that the village occupies in my mind. It would be necessary to reconstruct conversations I have had with M. Caillois and Mr. Nef; to note the influence upon me of my wife, children, friends, and of my reading; and to be aware of my health, the atmospheric temperature, whether the day is cloudy or clear. Is there any ink remaining in my pen? That would have to be known, and in addition a mass of social, political, scientific, and technical factors would need to be inventoried. For example, it would be necessary to know whether the order to return to work issued by certain trade unions will permit me to receive this morning some mail from the General Planning Commission which has been held up by a strike for fifteen days now.

B. Factors Become Modified During the Time Required to Verify Them. We have here a difficult assignment for the human mind. And what is more: it is an impossible one, in the present state of our techniques of gathering information. One fact is sufficient to prove this; and I ask the reader to reflect upon it, since it is, to my mind, the heart of the problem: *the time required to gather information exceeds the duration of the action being studied.*

This means that, even in a case where an inventory of causes can be drawn up, such an inventory would not be finished until long after the maturation of the event to be foreseen; so that it would not be the future that was forecast, but the past. It is, for example, conceivable that a statistical institute could inform itself with precision on all the factors which have acted on prices before August 21, 1953, and which would be likely to act on August 22. However, since the facts involved are worldwide and complex and since most of them cannot be known except by means of analyses which would be equally on a world scale and equally complicated, it is apparent that the information could not all be brought together between 11 and 12 p.m. on August 21. In practice, it would take months, if not years, to bring together all the data relating to this day of August 21; and yet all of them are really necessary to a scientific foreknowledge of just what will happen on the 22nd. Accordingly the prediction of prices relating to the twenty-second day of August in 1953 could not be published until some hypothetical date in 1975.

Even if I admit that it is scientifically possible to make an exact, complete inventory of the causes which are impelling me to write this morning, why I am doing the present article and this very phrase which I am in the process of drafting, I have to take account of the fact that such an inventory would require a long-term labour of experts, of such a duration that they would not be in a position to forecast how this article will end until some time so far in the future that not only would I already have written it, but what is more, unfortunately, I would no longer be in the least capable of writing it . . . Time thus undermines prediction in scholarship.

What is even more serious is that the work accomplished in order to foresee how I use my time on August 21, or the level of the general price index on August 22, will be only partially worth while for predictions relating to later days: for the list of determining factors varies with the date, and above all, their relationships vary. A factor which plays no role in predictions for the 22nd becomes of essential importance on August 23; others which were conspicuous are obliterated; none (or only an exceptional one) keeps the same degree of influence: the oil market is thrown into turmoil by the arrest of Prime Minister Mossadegh, I shall be called to leave for Italy . . .

Time thus plays a crucial part in the philosophy of science. The period necessary for gathering information separates the experimental sciences from those of simple observation, and does so more effectively than the

students in our classes are usually told that it does. The impossibility of experimenting is not simply the loss of a precious method for discovering causes; *it is the telltale sign of the heterogeneity of time.*

C. Time, in the Social Sciences, is not Homogeneous. The kind of time found in the human and social sciences is heterogeneous, that is, it does not admit of definite periods at the end of which phenomena repeat themselves identically. In these fields, phenomena never again pass through identical states. None of the sequences whose duration forms social time is, then, homogeneous.

D. Phenomena in This Field are Distinct and Autonomous. Still more, each phenomenon is, if not independent of the others, at least distinct and autonomous, that is, it has some distinguishing characteristics of its own; it shows an evolution, a behaviour which is *sui generis.* Just as I cannot identify any one of my mornings with any other morning, and I cannot identify myself with any other living being, in the same way the general index of prices in France, the economic crash of 1929 in the United States, the market quotation of the pound sterling on the Exchange, the sale of grapes this morning on the Moissac market—all are unique phenomena which are produced but once and have no counterpart either in time or in space. Even more precisely, these phenomena are only some aggregates and resultants, mostly artificially defined by experts or jurists, of a greater or smaller number of autonomous and independent facts. The general index of prices, for example, includes at one sweep the price of wheat, of potatoes, of iron, etc. Now each of these prices has a different development and depends on different factors. There is no correlation among them. They differ as much as one living being does from another living being. It follows that the index can be understood only by understanding its make-up, and by the study of each of its components considered by itself.

Do the characteristics of human and economic facts prevent us from knowing them in a scientific way? Is prediction objectively impossible? Must economic science stagnate in fruitless theories and out-of-date descriptions?

We do not think this need be the case. First, because we believe that great progress is possible by just such an increased awareness of the real nature of the situation as we have been suggesting. And second, because we believe that a science which will be useful to man can develop abundantly, outside the really somewhat elementary requirements of classical determinism.

We must first look for determinism where it really exists. This is not in synthetic compositions, aggregates, general assortments, or mixtures. It is in *autonomy*. So long as chemistry attempted to study mixtures, it went astray. By identifying the substances of unvarying chemical make-up, which were pure of admixture, then the simple substances or elements, Lavoissier created a fruitful science. We must identify the *pure substances* in the economy. These are not Prices, Crises, Competition, Production . . . (with capital letters, that is, in the abstract). No, the autonomous fact is the price of such-and-such a product, the amount of such-and-such a product that goes unsold, the way this or that merchandise is made. It is the price of wheat on the market at Rozay in Brie, the price of linden in the purchases of the Commissary at Paris, the price of fencing foils, Model No. 13 from the Armament Factory at St. Etienne . . . the technique of manufacture and the sales of Shoe Factory 'X' in Fougères or in Denver, for such a model, on such a day. We shall observe, after having isolated these relatively unmixed materials, the behaviour proper to each; we shall then, but only then, be able to group them into classes showing comparable behaviours.

The second rule is to forgo our claim to a precision which in the nature of things is at present outside man's mental capacity. Precision is outside our kind of time. Certainty is beyond our grasp. We shall then be approximatists or probabilists. This means that instead of trying to draw predictions which are verified every time, and within an accuracy of 1/00, we shall be looking for[4] predictions which are verified seven, eight, or nine times out of ten—and within one, five, ten or even twenty per cent of accuracy (per cent in this case, and not o/oo).

Then the problem of prediction becomes soluble in the province of the sciences of man, for, if put in this way, it authorises us to seek no longer for all the factors or phenomena, but only to seek out the *preponderant* among these.

Pursuit of Autonomous and Preponderant Phenomena

The essential thing about Galileo's discovery was not his having calculated the gravitational constant within an accuracy of one per thousand (it was only later that men succeeded in doing that) but in his identifying a common and preponderant factor in phenomena which were *a priori* distinct and had actually been considered distinct until then (the leaf

[4] I do not say, 'we shall content ourselves with . . .', because to hope for more in economic matters would be to fail to recognise objective realities and to pursue phantoms.

falling from a tree and floating on the wind, the billiard ball passing down an inclined plane, water running in rivers).

So long as it had not been detected, men did not know about this factor, or they considered it an idle detail of no importance; as soon as it was identified, its existence seemed obvious and fundamental. Our effort is to identify the autonomous and preponderant factors in economic matters, and then to discern, in composite perceptions, in a mass of accessory differentiated phenomena, that permanent factor or those permanent factors without which nothing else would be as it is.

Without gravitation, even though there would be water and river beds, there would be no current; even if there were leaves and trees, the leaves would not fall to earth. It matters little, then, whether Galileo's discovery did not make it immediately possible to calculate precisely the rate of the current in the river Arno; or whether it still does not permit us precisely to calculate the time that this leaf now detaching itself from this poplar tree will spend in settling to the ground. The essential part of the scientific result is obtained as soon as the essential cause is made plain, for knowledge of this factor is on the one hand already productive of fruitful predictions for the ordinary run of men, and on the other hand generative of further progress in research.

I cannot here sketch a general method of research for finding the preponderant factors. I will only say that this method seems to me to stem from the two essential traits of these phenomena: they are common to a large number of complex phenomena; and they are cumulative, that is, they exercise effects which are added together despite variable circumstances of time and place.

Given the fact we have stated above, namely, that time is not homogeneous for the social sciences, we must expect that the preponderant factors will not be uniform in time. This amounts to saying that when they are of a very long-term nature (one hundred years, for example, in economic matters), they will generally be quite negligible in the short term (six months) and only slightly perceptible in the middle term (five years).

To identify the preponderant phenomena, then, we must select a time span, and seek out the deep-lying differences which distinguish the beginning of the period from its end. Multiplying our soundings in time and space, we bring to light *what falls and what does not fall*, what stirs and what does not stir, what is very much transformed and what changes little or not at all. These confrontations will make it apparent

which factors are acting strongly at one point, and, at another, are showing little activity or none at all.

I think that in these studies of what is decisive in economic matters, we must begin with the long term. Actually, just as it would be absurd to hope to understand and treat the troubles of puberty in a young girl without being aware of the role of mother which she will normally assume, so it seems to me absurd to try to understand England's economic crises or her present difficulties in foreign trade (for example) without having first taken into account her fundamental evolution. Research directed toward finding the preponderant factors is easier, moreover, in material that stretches out over a very long term, because in this domain we have at our disposal, in larger amounts than we would have in the short or medium term, that factor which is so grievously lacking, generally speaking, in social science: time. If our studies cover one hundred or one hundred and fifty years, we have at least a chance that action will not subject our research to a sort of statute of limitations. Time then operates for us like a kind of magnifying mirror. In studying phenomena whose transformation is slow relative to the length of human life, we approach the position which our colleagues in the physical sciences already occupy without being aware of it: every phenomenon which is long-lasting with respect to us, will be for us a source of determinism.

II. *The General Range of Long-Term Prediction in Economic Matters*

Among economic phenomena, some of those which have most struck our contemporaries are the depopulation of the countryside, the fluctuations of employment, and economic crises. Looking at it another way, facts relating to the standard of living, to the purchasing power of wages, and consequently to prices, are those which often open the door to social conflicts. And finally, the differences which exist at the present time among rich nations, less rich nations, and underdeveloped regions, are the principal cause of international tensions.[5]

The Distribution of the Active Population

For a hundred years, men have been struck by the depopulation of the countryside. Around 1800, in all the world's countries, 80 to 90 per cent of human beings were peasants. France in 1780 had twenty million inhabitants; eighteen million were peasants. These proportions were common at

[5] It is obvious that we can give only a short sketch of our method here. This method, however, does not assume its full value unless it is applied to the concrete, detailed study of real situations. For this, we would refer our readers to our principal works as enumerated on p. 114.

the time, and were to be found in England, the Netherlands, Italy, Spain, Turkey; in India, in China. The world of that time was homogeneous. The United Kingdom itself had 80 per cent of its workers engaged in agriculture; in 1820, the United States still had 73 per cent so occupied.

The nineteenth century saw the countryside of many nations empty itself of men. In the United States, the agricultural population was reduced from 73 per cent in 1820 to 17 per cent in 1950. In France, the figure dropped from 80 per cent to 30 per cent. The movement was general, but quite irregular among the nations; thus, more than half the citizens of the Soviet Union are still engaged in agriculture, and nearly 80 per cent of those of India.

This phenomenon has been studied chiefly from a social and ethical viewpoint, and has only recently begun to figure in economic science. Mr. Colin Clark, notably, has brought to light the relationship between a high standard of living in a nation and the small size of its agricultural population. But obviously, reducing the number of peasants is not, of itself, going to make a country rich. What then is the cause of the migrations? Why are they becoming both possible and necessary? Only a knowledge of the cause of this transformation, or at least of the preponderant factors in it, will enable us to understand the phenomenon, appraise its human consequences correctly, and predict its future course.

What, then, are the factors in the depopulation of the countryside? What transformation has brought about the vast differences between the United States and India? What powerful phenomenon was able to change the homogeneous world of 1800 into our heterogeneous world of 1950?

Technical Progress, a Preponderant Factor

Do we not, by putting the question in this way, suggest the answer? Technical progress has transformed our world. A vague and general answer, however, does not suffice; a scientific answer is needed. Magnitudes must therefore be taken into account which are not only measurable, but have been measured.

If technical progress is a preponderant factor in our problem, it must be measured. We shall therefore be going back again and again to that measure of technical progress which is to be found in *productivity* (productivity: ratio of the physical volume of production to the total number of hours of direct or indirect labour necessary to obtain this volume of production, starting from pristine nature).

The physical volume of production attained by one agricultural worker

in one year has risen from 1, in the United States in about 1750, to 10, in about 1950; in France, from 1 to 6. We have here a key to our problem: progress, very irregular from one country to the other, may have given rise to the differences we observe today. India, whose productivity has progressed little, is found to have nearly the same proportion of persons in agriculture in 1950 as in 1800.

The Structure of Consumption, Another Preponderant Factor

But we lack another key: The agricultural population could not have decreased, not even in the United States, if the level of consumption had not risen in the same proportion as that of production; in other words, if the population had not raised the volume of its consumption from 1 to 10.

The average man was badly fed in 1750; the average American of today eats much better. He eats twice as much; but not ten times as much, for he has only one mouth, one stomach. If 80 out of 100 had remained on the soil, they would be producing $80 \times 10 = 800$, while consumption absorbs but 160 (twice what it absorbed in 1750, that is, 2×80). It was necessary, then, for 64 out of 80 of the agricultural workers ($640 = 800 - 160$) to leave the soil. They did so as they were squeezed and compelled by crises: they were *driven from the soil* by technical progress, because, as production increased, their products became useless to the feeding of the population. The 16 who remained were enough to feed the entire population.[6]

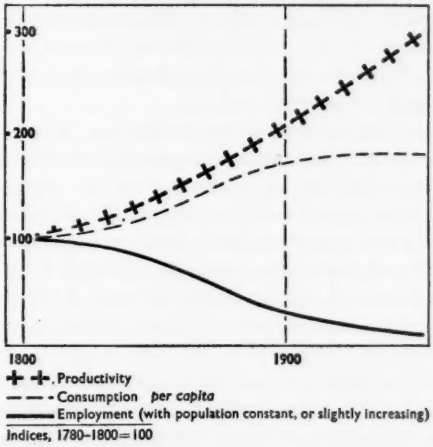
We can see here how the phenomenon of economic crises, which has been so poorly understood up until now, is linked with the distribution of the active population according to occupations. It also becomes apparent how technical progress, on the one hand, and consumption, on the other, are the two preponderant factors that govern employment in agricultural occupations.

As a consequence, we can explain the past, and predict the fundamental tendencies of the future. If in France, for example, technical progress increases without an increase in the consumption of food, we shall have by degrees the same evolution as the United States. But if, as in India for example, demographic growth should inflate consumption unremittingly and absorb the growing production, we shall have a different type of evolution, with a stationary standard of living and an agricultural population of stable proportions.

[6] It goes without saying that we are carrying this calculation out here only in very rough terms. To bring it closer to reality, we would have to introduce the figure of over-all population, because its proportion has varied in relation to the active population. But this does not change the order of magnitude of the figures.

We thus have one type of curve for countries where the phenomenon of production gets the better of that of consumption (this is the type of curve shown in Figure 1, below); and another type for countries where technical progress is powerless to raise the increasing production above the level of the increasing consumption.

FIG. 1. *Productivity, Consumption, and Employment for a Product of the Primary Type.*



The curve of total national consumption obviously has the same shape as that of *per capita* consumption, when the population is constant or only slightly increasing. This is what gives the employment curve its descending slant to the asymptote O. The equation of employment, e^{-t}, thus stands against the equation of productivity, e^{t}.

On the other hand, if the demographic factor is powerful, it becomes preponderant, and will then govern employment, which however cannot rise above its traditional value. If the increase in production is less than that in population, there may be a falling-off of *per capita* consumption.

Primary, Secondary, Tertiary

Two phenomena have thus come into our view as preponderant in the prediction of agricultural and alimentary facts:

a. *The increase of production*, under the influence of technical progress, measured by productivity.

b. *The increase of consumption*, under the influence of increased production; this increase in production is measured by the statistics of consumption.

But could we not carry out just as well, for all production and all consumption, the procedure we have just sketched out for agriculture and food products?

A. Let us first notice that, in the above, we have considered all agriculture together and all food-products together. Now, even a very cursory study is enough to convince us that technical progress has not had the same effects on data about cereals and data on potatoes, for example, and similarly the behaviour of consumption has not been at all the same as concerns milk and as concerns bread.

If we want to come out with precise predictions, we must thus study in isolation the production and the consumption *of each product*.

B. For it is not because wages are paid to the workers who make umbrellas that those umbrellas find customers. The Keynesians' error is to reason as if only two groups could be distinguished in production: consumption goods and investment goods. In reality, it is for each product that supply and demand must be in equilibrium, if we are not to have crisis or unemployment: wheat, potatoes, umbrellas, underclothing-buttons . . . .

C. Now, each of these products has its own behaviour; it is as inaccurate to think that wheat and umbrellas react the same way economically as it would be to imagine that soda reacts chemically in the same way as does sugar.

In particular, each product shows a behaviour which is *sui generis* with respect to our two key phenomena: technical progress and consumption. For example, wheat is strongly influenced by technical progress, fountain pens even more, umbrellas much less, potatoes still less. In the United States, average productivity, from 1800 to 1950, was multiplied eighteen times for wheat and only two or two-and-a-half times for potatoes. This derives from the fact that the technique of planting potatoes has made much less progress than that of sowing wheat, and that the extraction of tubers has shown much less progress than the reaping and threshing of grain. In the same way, the demand for wheat and for potatoes for consumption is not in the least identical, and this demand differs still more for umbrellas and for fountain pens.

We are thus in the presence of an almost unlimited number of *products* each having *its own* behaviour. Unmindfulness of this *autonomy* of

economic facts leads to frustrations as complete as the study of mixtures brought to chemistry before Lavoisier: no man can find simple laws in variable mixtures.

In order to let a little light into this forest of objectively heterogeneous and autonomous data, I therefore propose that we do as is done in chemistry: first, distinguish the unmixed substances of unvarying composition (whether they be elements or compounds) from variable mixtures; then, just as acids, bases, salts, metalloids, etc., are distinguished in chemistry, array these products into classes showing roughly comparable behaviours.[7]

For example, we call those products 'primary' which have this triple 'property' (as do potatoes): (1) they are agricultural products; (2) they have profited from a perceptible technical progress, which is, however, clearly less important than is the case for most industrial products; (3) they have a consumption-*per-capita* curve which has already passed its maximum in rich countries. We call those products 'secondary' which, like looking-glass mirrors and most industrial products, have the following characteristics: (1) they have undergone very great technical progress; (2) the consumers' demand for them remains on the increase. Finally, we call those products or services 'tertiary' which, like art tapestries, the administration of justice, teaching, and men's hairdressing, have this double property: (1) they have been the beneficiaries of only minor technical progress; (2) they have a strongly ascending demand curve by consumers, without signs of exhaustion in any country.

It is understood, of course, that I do not assign any rigidity at all to these type-classifications. In practice, if most products enter neatly into one of the three sectors, many remain refractory; some, although agricultural in nature, have undergone great technical progress (rye, oats); others, although they are industrial, are marked by practically non-existent technical progress (bell foundries); still others, such as all manufactured goods on their first appearance on the market, display a very strong technical progress and, at the same time, a very markedly rising demand. However, the distinction of the three typical behaviours is no less useful to economic science than that of acids, bases, and salts was for chemistry, for the differences in behaviour which are in question are extreme. But, just as strong acids and weak acids are distinguished, and as some

[7] Each class may be characterised by a typical product, which serves as a point of reference and as an example. It is for this reason that the method whose introduction into economic science we are recommending, is sometimes designated in other sciences as 'typology'.

substances have both acid functions and basic functions, in the same way we shall say without the slightest sense of uneasiness that rye behaves very much like a product of the primary type in its consumption but so far as its production is concerned, it is close to secondary behaviour; similarly, television sets have, at the moment, a secondary type of production and a tertiary type of consumption. Finally, it may be said that the production of aluminium remained typically tertiary until 1886, and that it has become typically secondary since that date.

These three adjectives, primary, secondary, and tertiary, will serve us, then, definitively to designate the *typical behaviours* with respect to the two key phenomena: technique of production, and consumption requirements.

We have already started a widespread inquiry in order to sketch the classification of the principal products. But much remains to be done. On the one hand, investigations into increasing consumption are few and very incomplete. Above all, apart from the highly spectacular special cases like aluminium, steel, electricity, and automobiles, the intensity of technical progress has remained very little understood; there are such watertight bulwarks between the engineer and the economist that the work of the one remains unknown to the other. With the small means at our disposal, we have, at the École Pratique des Hautes Études, studied about two hundred products from these points of view. It is as a result of this study that we can cite among the most *tertiary* of productive activities such items as tobacco-raising, the production of hunting weapons, repairs in general; and among the most *secondary*, the production of gas, of electricity, and of tyres. But taken altogether, it is in industry that one finds the most striking progress, in administration and in trade the least.

The distinction of these three grand types of behaviour with respect to technical progress and to consumption is of a surpassing scientific importance. Production and consumption are the two key phenomena of economy, and all the others are, if not determined, at least conditioned by them. They are the two arms of strong pincers, and whoever dispenses with these pincers, runs the risk of not being able to pull out a good many nails. Each type of behaviour, primary, secondary, tertiary, thus entails highly important consequences for the life of man. Each type supports a well defined group of characteristic properties, permitting the explanation of the past and, in a certain degree, the prediction of the future. These properties relate not only to purchases and to sales, but to foreign trade, to exchange rates, to prices, to purchasing power, to crises, and to employment. Gradually, the facts of productivity and of consumption thus rule

all the problems of economic and social life, or at least exercise a preponderant influence upon them.

We shall restrict ourselves here to reproducing the typical curves of employment in the three sectors, and to suggesting some ideas relative to prices and to purchasing power.

Typical Evolution of Employment According to the Sectors

Figure 1 (above, page 27) traces the fundamental tendencies of productivity, consumption, and employment for a product of the primary type, in the Western world.

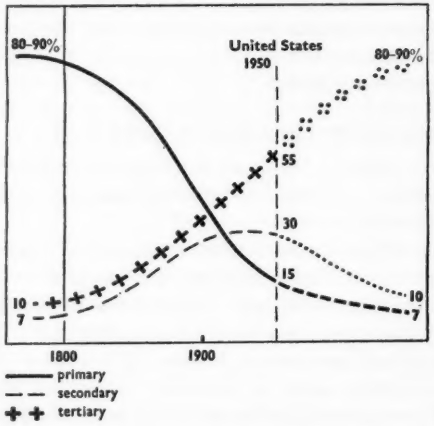
Productivity, which is substantially increasing, and consumption per head, which is very rapidly levelling off, bring with them the decrease of employment. This decrease in employment necessarily implies a reduction of prices, for, income *per capita* being taken as the unit of measurement, the price is the quotient obtained when employment is divided by the volume of production; now, in this case employment (the numerator) decreases and production (the denominator) increases. The fundamental falling off of agricultural prices will, in addition, be verified below for certain typical products.

It follows from this that food products are expensive in poor countries and cheap in rich countries, in proportion to the average wage. Exchange rates in part correct this disequilibrium by giving wages in poor countries a lower international value than the wages of rich countries. For example, wheat is worth eight wage-hours to a workman in New York, and twenty-four in Paris; but, according to the official rate of exchange, the hourly wage at New York (one dollar) equals 350 francs, while the French workman only earns 130 francs. Thus, the spread in international prices, instead of being $8:24$ now appears to be only $8:\frac{24\times 130}{350}=8:9{\cdot}5$.

Figure 2[a] traces the typical tendencies of employment in the three sectors. The preceding explanations are sufficient to clarify the meaning of these curves. Employment for tertiary goods, not being limited by the demand of consumers, which remains unremittingly active, is limited only by employment in the first two sectors. Thus the tertiary trades slowly absorb the working force which is set at liberty in other fields. This sector, in which demand is increasing more markedly than production, will continue to persist for a long time, even in the most advanced countries. This implies the persistence, so far as human beings can foresee, of an

[a] Taken from *Le grand espoir du XXe siècle*, p. 88.

FIG. 2. *Fundamental Tendencies of Employment in the Three Typical Sectors.*



This figure represents the fundamental tendencies in the distribution of the active population according to the three types of activity.

Before 1800 and for centuries, out of 100 active persons, 80 to 90 were in agriculture (primary), about 7 in the secondary types of employment (industry, manufactures, handicrafts), around 10 in employment of the tertiary type (government, clergy, trade).

These proportions have been impressively transformed under the effects of technical progress; as of the present, the United States has only 15 men in agriculture and 30 in secondary activities, for 55 who are in the tertiary occupations.

The presumed continuance of the present manifestations of technical progress and of consumers' wants makes it possible to predict, for all countries with a modest birthrate, an analogous tendency having as asymptotes values such as 7·10 and 85.

Toward the end of this transformation, men employed in secondary activity will thus not be much more numerous than they were in 1750, while the tertiaries will have taken over the numerical position of the primaries.

economy of scarcity, and consequently of an economy based on wages, whether we are looking at an order of things along soviet lines or at the liberal world. For wages are the only practical system of rationing in an economy of even the slightest degree of complexity.

These three curves are valid both for the totality of the economy divided into three sectors which are respectively predominately primary,

secondary, and tertiary; and for a given industry, according to whether it is in a primary, secondary or tertiary stage. The curve relating to the secondary sector is in short a synthesis of the two others. If we want to follow this curve through from beginning to end we would have to start from the moment when a new product has been introduced on the market. Demand is increasing rapidly, and employment rises at the same time that productivity does. From a certain point in time on, however, the increase in productivity gains on that of consumption; employment levels off, then decreases. The discovery of a new technique can subsequently kill off completely the old activity (example: stage-coaches drawn by horses) or reduce it notably (example: village wheelwrights, the moving picture industry).

The three curves in Figure 2 are based on experience, up to the vertical line which corresponds to the present situation in the United States (where 55 per cent are in a tertiary activity).[9] What follows from there is conjectural and would require for its realisation the continuance of the preponderant causes which have shaped the past (persistence of the same type of technical progress and of the same tendencies in consumption).

Typical Evolution of Prices and of Purchasing-Power

In order to follow the profound tendencies of change in prices and in the purchasing-power of wages, we must first compare prices, not in terms of the monetary unit, which is always changing, but in terms of other prices, chosen as the unit according to the study which we want to carry out. In the three simple examples that follow, we shall take as our base unit the hourly wage of a very characteristic type of worker, the unskilled workman in industry, in cities of from 50,000 to 100,000 inhabitants.

The relation between current price and current salary is called the *real price*. The current price gives us a series of incoherent figures, whose incoherence grows further if we take into account the influence of exchange rates and other financial correctives. The real price, on the contrary, is both comprehensible and predictable.

For example, the going price of a haircut has gone up in France from 0·10 francs in 1780 to 150 francs in 1953. What can we deduce from that, other than that the currency has 'softened'? What can we deduce for the future? The same haircut nowadays costs, according to the country considered, 0·9 Canadian dollars, three Swedish crowns, two and a half

[9] Tertiary activity is an abbreviated expression for: activity devoted to the elaboration of a product or a service of the tertiary type.

shillings, 200 lire, 9 pesetas, 4 annas . . . . It will not help much, but rather increase the confusion, if I write that according to the current exchange rates, this gives the following sums in French francs: 300 frs., 210 frs., 150 frs., 36 frs., 25 frs. The only conclusion that could be drawn from these figures is that it costs less to have one's hair cut in Karachi than it does in Montreal or New York. Unfortunately, one cannot stock up on haircuts, and the difference in price on one haircut still does not repay the cost of a trip!

All this seems trivial but becomes scientific if we observe (see Figure 3) that these current prices, divergent as they are, in every case stand for one wage-hour: one wage-hour in France in 1780, one wage-hour in 1910, one in 1953; and not only in Paris, but in Montreal, New York, Stockholm, Madrid, Rome, Karachi, and even at Wellington, Djagarta, Moscow, Budapest. Before we had complete incoherence, now we are in the presence of utter determinism. Is this merely a curious coincidence? A strange caprice of figures which take on some pattern for a moment, in their disordered dance?

Not at all. It is the obvious and simple consequence of the tertiary character of haircuts. Little influenced by technical progress, the barber's work always takes more than 10 minutes per customer, despite the use of certain instruments such as electric clippers. The proportion of clients who are bald or shorn does not increase. The productive activity in this case remains 'artistic' and of a handicraft nature; haircuts are still awaiting for their Henry Ford and his assembly line. Productivity and a production-period which are fixed (or very slightly decreasing) carry with them a ratio which is also fixed (or very slowly falling) between wages and prices. Here, we have taken for a comparative salary base that of an ordinary workman; it would have been better to have taken that of the apprentice barber; the correlation would have been still better if we had taken the average hourly income of the master barber, whether worker or owner of his shop.

Such are the distinguishing marks of tertiary prices: levelling-off in time, identity in space; only the rates of exchange, by disequilibrating the values of salaries, disequilibrate the price of tertiary goods as well, and make the tertiary products seem expensive in rich countries and cheap in poor lands.

The prices of primary and secondary products obviously behave quite differently. The figures shown herewith illustrate their movement by examples. Variations here are by no means small-scale. A thousand per

cent, ten thousand per cent, twenty thousand per cent, are the usual figures in data of this kind. Whoever overlooks them, loses sight of one of the major phenomena of the contemporary world and deprives himself of one of the essential factors in the *explanation of our time*.

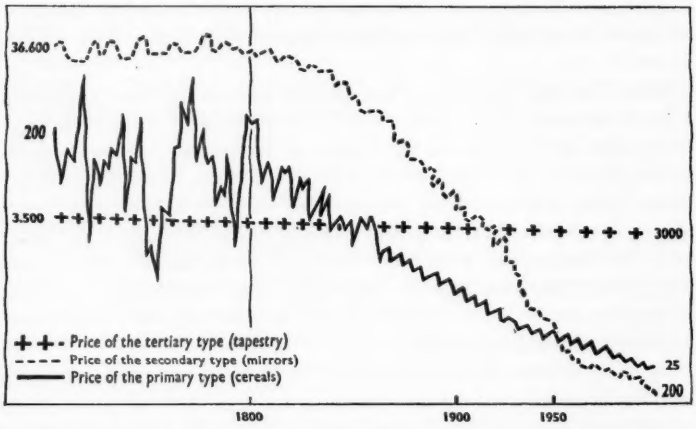
For a hundred years, men have known how to calculate within ten seconds the occultation of Jupiter by its fourth satellite; we know how to weigh the stars and measure the distance of the nebulae; but we know no better than our ancestors how to regulate questions of interest, avoid a strike, effect accords among personalities, conduct negotiations, sign a treaty. On the contrary, the power which technology has put in the hands of a few men causes what were formerly merely local squabbles and neighbourhood irritations to degenerate into world-wide suffering. Humanity suffers gravely from the fact that the physical sciences have run ahead of the social sciences.

A disequilibrium is thus brought about between our means of action and our knowledge of the consequences of action. We know how to act upon nature better than we know how to predict what will result for men from this action. And often sufferings are the result, when we were hoping for happiness. The fundamental task of our times is thus to make up for the lagging of the sciences of man relative to the physical sciences, on pain of seeing a wider and wider gap appear between our actions and their results.

In fact, it seems likely that this task will be accomplished. Long paralysed by their servile imitation of the physical sciences, the sciences of man are beginning to forge their own weapons. There has not been a month, in recent years, during which important results were not achieved, either in medicine, in psychology, in sociology or even in economics.

We hope that these few reflections, on the value of time in sociology, on the autonomy of phenomena, on the necessity for detailed analyses, on the convenience of typological classifications, and on the role of technical progress in economic life, will be of assistance for a better understanding of the present world. We hope above all that studies of this kind will be able to show the richness of new methods and the fulness of that harvest which remains to be gathered, and to arouse the interest of young people, inspire them to take up careers, so that our twentieth century will evoke in the memory of man less the birth of atomic energy than the adolescence of the sciences of man.

FIG. 3. *Fundamental Tendencies of Real Prices in the Long Term*



The scale of prices is given by the inscribed numerical figures; it thus differs for each of the three curves. These curves, moreover, are not exact in detail but only serve to indicate the types of behaviour.

It will be recalled that the real price is the current price divided by the current hourly wage. For example, in 1702, a mirror of 4 by 2 metres, cost 2,750 *livres* in Paris, and the hourly wage of unskilled workmen was one *sou* and a half; the real price of the mirror was, then, $\frac{2{,}750}{0{\cdot}075} = 36{,}600$ wage-hours. In 1953, the current prices had become respectively 30,000 *francs* and 150 *francs*, and the real price was therefore $\frac{30{,}000}{150} = 200$ wage-hours.

Prices of the primary type were, before 1800, very variable in the short term but very stable in the long term. Since 1800, they have tended to become stable in the short term and slowly falling in the long term. From one country to the other they were little different in 1800, but are notably divergent today (example: potatoes, fruits, cereals, green vegetables. . .).

Prices of the secondary type were, before 1800–1830, only slightly variable in the short term, and stable in the long term. They became, under the influence of technical progress, more variable in the short term (crises) and markedly decreasing in the long term. From one country to the other, they were formerly very little different, but today they differ among nations in an extreme fashion, as a consequence of the difference which exists in the rate of progress in different countries. Examples: iron, steel, aluminium, electricity, etc.

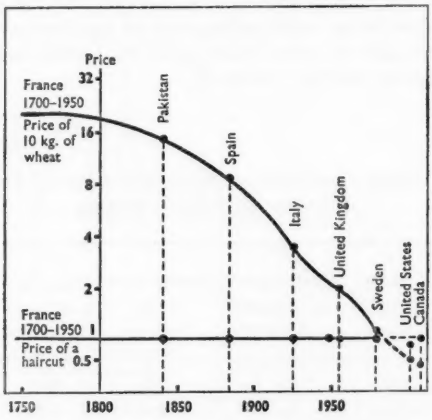
And lastly, *prices of the tertiary type* vary little in the short term, just as they vary little in the long term. They have been only slightly influenced by technical progress; and as a result, have maintained, up to our own time, the same behaviour as before 1800. Not having varied in time, they are also found to be identical in space, being little different in the Indies and in the United States of America. Examples: art tapestry, barbers, theatres, etc.

A Price of Primary-Type Behaviour (Wheat) and a Price of Tertiary-Type Behaviour (the Price of a Haircut)

France	Current hourly wage	Current price of a quintal of wheat	Current price of a haircut	Real price of a quintal of wheat	Real price of a haircut
1750–1785	0·10	20	0·10	200	1
1876–1885	0·23	23	0·25	100	1
1906–1910	0·32	20	0·30	65	1
1930–1935	3·2	82	3	26	1
1951–1953	150	3,600	150	24	1
Nations which are ahead of France					
Canada 1951–52	$1·00	$6·00	$0·90	6	0·9
U.S.A. 1951–52	$1·15	$9·00	$1·00	8	0·9
Sweden 1951–52	2·8 crowns	30 crowns	3 crowns	11	1
England 1951–52	2·5 shill.	£2·15	2·5 shill.	22	1
Nations which are backward compared with France					
Italy 1951–52	200 lire	7,800 lire	200 lire	36	1
Spain 1951–52	4 pesetas	320 pesetas	4 pesetas	80	1
Pakistan 1951–52	4 annas	26 rupees	5 annas	120	1·2

The above tables of values have been used to construct Fig. 4.

FIG. 4. *Changes in the Price of Wheat (Primary Product) and of Haircuts (Tertiary) in Time and in Space, since 1750.*



Prices are indicated in average wage-hours of unskilled workers.
Logarithmic scale: figures are taken from the preceding table.

The curve shows the development of prices in France, from 1700–1750, and its foreseeable continuation (dotted line). The actual price level in other countries is marked on this curve. Certain nations thus appear retarded in their development in comparison with France, others (on dotted line) seem farther ahead.

It will be seen, however, that this retardation, so important and so consequential in the case of wheat (primary product), is without any noticeable influence in the case of haircuts (tertiary), their curve being practically a horizontal. *Tertiary prices do not vary in time, and they are constant in space as well.*

Alphonse de Waelhens

NOTES ON SOME TRENDS OF CONTEMPORARY PHILOSOPHY

About 1910 it became customary to call Bergsonism and all related tendencies 'new philosophy'. This term was designed not only to contrast an apparently revolutionary idea with the classical intellectualism of the Franco-German academic tradition and with the platitudes of a philosophy that affirmed and believed itself to be inspired by positive science; the concept of 'new philosophy' was meant, above all, to imply that, starting with Bergson, philosophy intended to change its position in regard to human experience. No longer an *explanation from afar* of the world and of consciousness, philosophy professed to be henceforth *one* with this experience; not satisfied to shed light on man and his life, it aspired to *become this life*, now at the stage of complete self-awareness. It seemed that this ambition constrained the philosopher to renounce philosophy's ideal—to be an exact science—since this ideal is not only inseparable from the idea of an impartial and detached spectator, but also from that of a reality so constituted as to be an object of pure vision. On the other hand, however, to abandon this ideal proved less acceptable than ever. The startling progress of positive science gave birth, or rather rebirth, to the illusion of a total explanation: how then could one admit that philosophy would

triumph over its secular uncertainties by drawing away from this brilliant example? The relative failure of Bergsonism is possibly due precisely to the fact that it never was willing to make any clear statement of choice in this matter.

It is true that—to limit our study to the nineteenth century—Bergson's ambition was not as 'new' as it seemed to his contemporaries. In altogether different perspectives, Hegel and Marx, even Kierkegaard and Nietzsche, attempted to realise the idea of it. For the identity of experience and its explanation were Hegel's great discovery, the very essence of Hegelian thought. However, Hegel refused to describe this identity as being itself merely a factual datum; implicitly real, it is also always to be realised explicitly. His dialectical and evolutionist conception of mind-experience allowed him—but at a very high price—to rise above the difficulty we have just mentioned: if man's and mankind's experience are identical with the explanation the philosopher supplies of them; if, inversely, the philosopher's thought is inseparable and, in a sense, indistinguishable from experience, this reciprocity, always virtual, is nevertheless clear in itself (*for* itself) only in absolute knowledge. Philosophy therefore does not cease to be a science; it is indeed the *only* science. Sciences, according to the usual meaning of the word, seem to speak of objects and of things that are not themselves (as the chemist is not his chemistry, as chemistry is a discourse *about* the bodies it studies) only because they are incomplete and do not reveal all their implications. Given *absolute* clarification, they will fuse with the perfect explanation of the Spirit, which is also the absolute presence of the Spirit before itself, therefore, the identity of experience and knowledge, absolute knowledge, philosophy. Philosophy is absolute science precisely because it provides a form of knowledge which suppresses the distance between itself and the object, *is* itself its object. The very opposite is true in the light of the difficulty we suggested. The identity of philosophy and of experience seems to bar us from speaking of a philosophical *science*, because this identity suppresses the distance from the object and because, in modern times, distance from the object has been thought of as the very essence of science; yet Hegel teaches us that any science distant from its object is a pseudo-science, a science still at odds with itself, which does not accomplish its purpose nor become what it claims to be except by triumphing over this distance. *True* knowledge refuses to distinguish between expression and content; that this distinction continues to exist in fact merely shows that we do not *fully* and *truly* know.

We are familiar with Kierkegaard's objections to this concept. We can say (I dare not write, we *must* say) that the Hegelian position is only tenable if we agree to a definition of man as a being *simply* on the way to universalisation. It is obvious that by identifying philosophy with human experience viewed in its totality, we try to force a different meaning on the term 'experience' as generally used; since, plainly, this identification does not apply to what we spontaneously call *our* experience. The change that the Hegelian concept demands consists in renouncing the individual. Unity of philosophy and experience is inseparable from the advent of universal man. According to Hegel, movement toward this advent constitutes the only possible meaning of history; its realisation therefore coincides with the end of history. But what is the exact meaning of these theses? Should we interpret the Hegelian universal in Kierkegaard's way, as a reduction to an impersonal reason, and therefore join the Danish philosopher in rejecting this universal? The renunciation of the individual, is it a victory over the chaotic dispersal of sensitivity or does it mean a complete denial of man's personal destiny? Perhaps Hegel was misunderstood on these questions; we can have no doubts, however, about the manner in which his successors understood him. Total renunciation of the individual, which was considered the principal fruit of his doctrine, for long discredited it, and this was aggravated by a complete misunderstanding of Hegel's philosophy of nature, which nineteenth-century science seemed to ruin irretrievably.

Considered as distinct from the realisation that Hegel attempted to give it, his ideal of the unity of philosophy and experience overcame this first defeat and lived on in the minds of certain thinkers. It was reborn in an entirely new form in the philosophy of Marx, and turned up, again in different form, in Kierkegaard and Nietzsche. But these attempts, so unlike one another that it may be surprising to see them mentioned together, must also be considered as relative failures, and for reasons entirely different from those we pointed out in the case of Hegel. We want to indicate this briefly before going on to show how, in our view, contemporary philosophy, considered in its most original aspect, takes up the same problem with perhaps better luck.

We are familiar with the famous thesis that sums up the essential aim of Marx's effort: we must destroy philosophy before trying to realise it. Let us say that a thought of and by itself is merely an intellectual alibi and a more or less hypocritical way of accepting things as they are—even of making them worse, since the apathy of 'philosophers' in regard to the

real trend of the world would invariably be interpreted, by those who want to impede the evolution of its course, as a confession of impotence, as an invitation to resignation or even a proof of the excellence of the established state of affairs. However, if we are to believe its verbal claims, philosophy's ambition and aim is the liberation of man. There is thus an ever widening chasm, or an irreconcilable contradiction between the concept philosophy has of itself and its effective reality. Philosophy claims that it works for the emancipation of men by reason but teaches that it is perhaps reasonable to accept slavery, however camouflaged by the 'absolute' freedom of the prisoner, ever capable of denying his chains in his innermost consciousness and of believing himself sovereign. The original meaning of Marx's doctrine is to establish a conception of reason that reconciles it with actual and total reality. Authentic reason can transform reality because it is always deeply inspired by it. Once again, philosophy—insofar as it promotes this transforming and revolutionary reason—becomes indistinguishable from experience. What Marx essentially denies, just as does Hegel, is the idea of a reflexion that creates a distance between itself and what it reflects, the idea of a reflexion that could not be merged absolutely in what the classics would call its 'object'. Yet the final and complete ontological reciprocity of existence and thought will no longer be defined as *absolute knowledge* but as *integral humanism*. And this is logical in a metaphysics (if I may use this word in connexion with this author) which no longer agrees that existence should have as its end self-awareness, but, more realistically, believes that the real carries its meaning within itself—even if this meaning is in a state of becoming and must be brought to its full flowering (and that is why we are dealing here with an evolutionist realism). The meaning of things and of man does not at all depend upon our awareness of them, yet this awareness can help bring it to fruition as well as postpone its advent.

Does subjectivity receive its due in this philosophy? There is good reason to fear it does not, and we must admit that the development of the doctrine—to say nothing of the rest—has not done anything to alleviate this fear. On this matter it would seem, as we shall see, that a certain contemporary Marxist concept can help to clarify the question by demonstrating how integration of the dialectical relationship between the subject and the object with total reality, how, indeed, the identification of this relationship with total reality, opens up, or rather fosters, an authentic possibility of development and of personal destiny.

The dangers that threaten Kierkegaard's effort are necessarily of quite

a different kind, since it is inspired by an open reaction against Hegelian tradition. However, the idea of identifying philosophy and experience is, at least in regard to certain aspects of his work, as active in Kierkegaard as in Hegel or Marx. There is a shade of difference in Kierkegaard's direct conception of authentic human experience as being, either positively or negatively, an experience of *salvation*. In a certain sense we find the same tendency in Marx: history progresses, through the transformation and domination of nature, toward universal recognition of mankind, which coincides with the advent of humanism. But we can readily see that these affirmations imply a restrictive definition—implicit or explicit—of experience. They imply that we should ignore as *insignificant* or *mistaken* more or less extensive areas of what an uninformed conception would classify as history or experience. Hence the distrust and contempt of certain Marxists (who went further than Marx himself) for 'superstructures' or 'sentimental effusions'. Hence, on the other hand, Kierkegaard's impressive silence in regard to the totality of realities designated by our contemporaries under the general title of 'being-in-the-world', whether it pertain to the individual being-in-the-world, or, less easy to isolate, the inter-subjective being-in-the-world. From this point of view the Hegelian position has a great initial advantage: identifying human destiny with the *knowledge* of this destiny, it is not *a priori* condemned to lop anything away, to distinguish between the authentic and the unauthentic, between important reality and 'unreal' reality. Yet it is true that analagous difficulties crop up again, as we have already seen, as soon as the problem of the constitution of this absolute knowledge arises, as well as that of the subject (of the mind) which will be invested with it.

Kierkegaard resolves these difficulties by volatilising them, if one can put it that way. Denying the system, he does not have to worry about making the exterior and the interior coincide. From the very first the interior is the only 'reality' for him. Never was a philosophical doctrine (if we can apply such a term to this 'Socratic' author) more determined to rest the interiority of the subject entirely upon itself. Never was the idea of man's incarnation—although very poorly handled by pre-Hegelian classical philosophy—so superbly neglected. Doubtless it might surprise us to hear Kierkegaardian thought described as a radical 'interiorism' since Kierkegaard also links the subjectivity to the Other, absolute in itself. *To be* subject, according to him, is to refer to the Transcendent and to refer to it sinfully. For I can be *me*, *make myself me*, only by a will for separation, for a split with God, which is just what is wrong. There *is* really no

prereligious existence. There is no *me* in animality, which is torpor of the flesh; there is no *me* in aesthetic existence, which is immersion and dispersion in a momentary immediate (not to be confused with the instant); there is no *me* in ethical existence, which is conformity with the universal of the law. The *I* arises when it wills *itself*, that is, when it directs and assumes its solitude against every other, and hence, first of all, against the Other from which it springs. To be oneself is to choose against God. Strictly speaking it would be impossible to choose *for* God, because an option such as this, unless it arose from an affirmed and conscious selfhood, would not deserve to be called a choice. Thus a fundamental paradox arises; man discovers God by discovering *himself*, but he can only discover Him by defying Him, by sinning. This paradox can only be surmounted by the greater paradox of Faith. Faith saves us from reason, and in a sense, from ourselves.

We have recalled the Kierkegaardian theses solely in order to address ourselves to that part of them which is of interest from our point of view. Apparently certain of them contradict what we have said above. In founding subjectivity on relationship to the Transcendent, Kierkegaard seems to separate this subjectivity from itself and to re-establish this 'intentionality', this constitutive reference of the *me* to the other for which the most vital contemporary philosophy contends so incisively. But this is perhaps only an illusion. Above all, the meaning of the doctrine of intentionality is to avow and proclaim the incarnation of consciousness. The dialogue is not only a category of inter-subjectivity, it is installed in us, it is us. This is why the notion of behaviour more and more replaces that of consciousness. Rather than to divide man between an interiority in which he would lock himself as in a fortress, depending only on himself, and an exteriority where he is constantly constrained to appear, to act, to be with others, to concretise himself without ever feeling at home and himself; rather than to define man *simultaneously* as a prince and as an exile, it would be better to admit that our most intimate reality is neither merely an outside, nor merely an inside, that, to improve on Montaigne's phrase, there is no 'library' whence we might completely exclude our wife, our children, our friends and the world, or rather, that such a library has walls covered with books that speak of them, and without which there would be nothing; not even 'that secret savour that we get only from ourselves'. To exist, for man, is necessarily even though inadvertently, to reveal and to lead to fruition the meaning of things, and by this behaviour, revelatory at every moment, he establishes the sense of

his own life. Now this behaviour is only in part, and in accordance with a possibly subordinate modality, *thought about things*. First of all it is cohabitation, pattern, exchange, language. The nineteenth-century philosophical explanations of language demonstrate with blinding evidence the weakness of the dualism that contrasts in us pure consciousness with body-object. It has been said: they all consist, beyond their quarrels, in making of language a process in the third person without a subject that speaks. On the one hand language is an unfolding of mechanical and physiological phenomena, linked to the brain's tracks and proceeding by association (we do not know, in the end, whether this notion belongs to physics or psychology), but this concept ends by denying language as a manifestation of a subject at grips with the world and others, becoming itself in this work of expressing itself and the other; on the other hand, language is a totality of arbitrary signs, which themselves are physical or physiological, whose function is to *translate* externally a system of concepts, theoretically identical in every subject, not at all affected by this translation which it could easily dispense with if men were not plural, enclosed within themselves and obliged to communicate their thoughts to each other. The need to speak is therefore without relationship to the substance of what is said, to the being who speaks. The subject is never 'merged' in its language, and the dialogue is a simple exchange of thoughts that words transmit without penetrating, as you pay or contract a debt by a transmission of bank notes, coins, or instruments of credit whose individual reality is of no concern to the substance of the transaction. But how then are we to understand the true nature of language, which is to bring about, to incarnate, our encounter with things, and to make it exist by the intervention of a cultural world, already extant, that offers itself to us so that we may take it up and enrich it?

This isolated and schematic example, that could be extended to all clearly human phenomena, shows the impossibility of interpreting the 'subject' by its interiority alone and the necessity for a philosophy of *intentional* consciousness.

On this question Kierkegaard's failure is flagrant. The relationship to Transcendence, to which he reduces the being of selfhood, does not extend through others, borrows nothing from the effort and the community of men, is not rooted, not sustained in a body that makes us a participant in the world, and therefore cannot, Kierkegaard never tires of repeating, acquiesce to any form of communication. And so we must ask ourselves if it truly wrests man from his solitude, if it is not merely a fiction of

subjectivity, born of the frustration of an impossible desire. We must ask ourselves above all whether this plumbing the depths of self, which in Kierkegaard's thinking represents all *true* wisdom and philosophy, is not in reality an adulteration and impoverishment of experience, and even, and this is a question that must be raised, under the guise of an exaltation of religious existence, its negation.

The difficulties Nietzsche's philosophy has to face are not basically so very different. There is no doubt that Nietzsche acknowledged identification of experience and of thought or philosophy as the ultimate and decisive meaning of his work. It is the absence of this intention that he denounces in his diatribes against the philosophies of professors who want to 'understand' the world and human nature in such a way as to impose a 'truth' that deprives the individual and authentic existence of any hope. These criticisms are less important than the 'authentic' concept of man and of philosophy which they disclose. The secret weakness of this philosophy resides in the constant and insurmountable ambiguities of Nietzschean naturalism, which moves from a conception of man as a being given in nature and part of nature to a description of this same being as source and author of his own 'value', or inversely.

As a moralist, Nietzsche believes that man sterilises himself—and that men level each other down—if he takes a transcendent, suprasensible value as the norm of his life and acts, a value not itself established by those acts and without roots in this terrestrial world, the only one accessible to our experience. Denial of the 'other world' is therefore supposed to place in our hands the means of making ourselves masters of our own life. The elimination of Platonism (from which Nietzsche does not distinguish Christianity) in the realm of moral philosophy as well as in that of speculative philosophy must bring us back to our true homeland from which Christianity, out of resentment, has exiled us. But what is this *true* homeland and how is value defined in it? It is here that the Nietzschean position reverses itself and where this derider of speculative truth very unfortunately makes himself its prisoner. Value, he tells us, is that which encourages the flowering of life, toward which every being yearns as toward his own fulfillment, that which permits him to attain his greatest development. A tremendous urge toward self-affirmation agitates and traverses all nature, to culminate in full awareness of itself in the existence of man, in the existence of superior men to whom everything must be subjected, that this urge may be freed and realised. But the notion of this continuity is merely borrowed from a form of knowledge, positive

science, which, rightly, returns man to a natural given totality (it matters little that this totality might be in a state of becoming) in regard to which any idea of value, understood in the sense of norm and of duty, remains a simple non-sense. A philosophy that claims to be founded on the experience that man has of himself and to contribute an integral explanation of this experience must absolutely forego any point of view from which man is seen from the exterior (as we would look at insects or the vegetable kingdom), and in particular any consideration of the human being as a biological reality. Because the ambiguity consists in the very thought that the experience we have of ourselves as carnal existence can become the object of biological science, and thus, that all we have to do is to refer to the latter to understand the former. Any philosophy that wants to provide an explanation of experience lived (we do not say, of simply subjective and interior experience) must, in the first place, explain itself in regard to its relationship with positive science. Because positive science is not an intemporal reality, a kind of absolute code of truth to which it would be possible to refer everywhere and always, *without the possibility and the legitimacy of this reference ever being questioned.* Science is the work of man, like philosophy and art but in a different manner than these. It is constituted by man only insofar as he accedes to a point of view methodically determined in function of ideals, necessities, actions which are in no way those of spontaneous and unforeseen experience. It is very important to remark here that if accession to this point of view itself defines the human subject as 'knowledgeable' or 'author of science', it presupposes a reform of spontaneous experience *from which point* it establishes itself and of which it gives a certain kind of explanation, *on a certain level and with certain perspectives* (*and not on all levels and according to all possible perspectives*). Consequently, one is never justified in interpreting this spontaneous experience—which, however, the philosopher *must* discuss since it is at the basis of everything and since without it there would be nothing for the scholar, the artist or, for that matter, the man of action to say or do—in terms of scientific knowledge, and even less, in incorporating into it elements or 'realities' which spring from this knowledge. Concretely, there is a world of experience where the sun rises and sets. This world exists and has a meaning; it is also the world upon which we must inevitably lean on all occasions, even if we decide to devote our life to astronomy (an expression which is merely metaphorical since the astronomer continues to live in himself with us, no matter what he thinks as an astronomer). Therefore it is senseless and impertinent to declare that this world is *false*

and *illusory* in the name of astronomy, which, speaking of its own world, teaches the rotation of the earth around the sun. If the astronomer allows himself to make such an affirmation and begins to deny the reality of the spontaneous world, he contradicts himself, because the effort that he makes in trying to convince us—you and me who understand nothing of astronomy but encounter the astronomer on the street and buy his books—unfolds in the spontaneous world and only has meaning if this reality, which he professes to deny, is assumed. In other words, manuals of geology explain mountains, rivers, and forests, describe their formation—but, in the last analysis, I can only know what the author is telling me *about* if, *first, like him and with him,* we have agreed on calling mountain, river, forest that which we find by going to the 'country' or 'to the mountains'. Doubtless this way of thinking also has its problems, and it is not so easy to understand what dimension of ontological explanation it continues to reserve for positive science, nor to indicate in just what manner—in any case limited—it can admit seeing the scientific world reverberating in turn on the world of spontaneous experience. For the moment we are satisfied merely to show that the simple transfer of the world of science to the spontaneous world is a meaningless speculation.

Now, it is precisely this process which vitiates the philosophy of Nietzsche and, later on, that of Bergson; which contradicts the claims made by these philosophers of identifying philosophy with the explanation of spontaneous human experience. It is this, too, that taints as ambiguous the notion of 'value' which is, as we know, central to Nietzsche's philosophy.

These considerations, which could be applied with only slight modification to Bergson, tend merely to demonstrate what stumbling blocks the Existentialist phenomenology had to avoid when, following the thinkers we have just mentioned, it tried to conceive of philosophy as the explanation of integral human experience.

We should like to limit ourselves here to showing how Existentialism realises this aim, without taking into account, in order not to make this study too long, the numerous objections that could be raised from the outside and of which, for that matter, the non-phenomenologist philosophers have scarcely been sparing. Nor will we mention here the difficulties that the development and unity of the phenomenological movement raises. These difficulties are quite real; in the following we assume that they are partly resolved because it seems to us that, through the vicissitudes of its formation and the diversity of the origins and intentions of the authors that enriched it and made it what it is, there emerges a

universal meaning of Existentialist phenomenology. It is this meaning that we shall try to understand, believing—but here again we cannot attempt to justify entirely our statement—that it will be decisive for the entire philosophy of this era.

Classical philosophy until Hegal was dominated by the problem of knowledge. Asking *whether* man's knowledge *can* be true (and, secondarily, in which instances it can be known to be true), it posits thereby the principle of a split between man and reality and, inside of man himself, the principle of a split between his knowledge and his being. One cannot doubt, actually, that man is integrated with reality since any attempt to raise and formulate such a doubt at the start assumes this integration has taken place and is effective. Nor can one doubt, and for the same reasons, that man is, according to the observation of a contemporary who improves on an old formula, *lumen naturale*. Which means that man, from the sole fact of his apparition in reality, *illuminates it*, reveals in it a meaning (either because he has brought it to light in things, or because he imposes it on them). This capacity to reveal is not the privilege of knowledge (which is but one of its forms), nor is it a faculty that man exercises now and then: it takes place ceaselessly and of necessity because of the very fact of man's existence. To be revealing of the meaning of things and to exist in a human way are basically and strictly synonymous expressions. Human behaviour, regardless of the object or action to which it is applied, establishes or makes apparent a certain significance in the things that it refers to. This is true of our actions, even the most commonplace ones; it is no less true of the apparently least co-ordinated bodily movements: turn your head, lower your eyebrows, raise or lower your eyes, cover your face with your hands, throw out your torso—these are all ways of 'signifying' what occurs to you. All these gestures are of a nature to make things, and ourselves, speak. The meaning of our life is to say what is real, to make it be what it is. Analysis of this ultimate and distinctively ontological characteristic of our condition would reveal the assumption that we are necessarily and simultaneously in perfect proximity to and at a total distance from the real. In other words, man is by vocation a familiar of things, he is open to them, he is himself only when close to them. He has no being save in making himself interchangeable with them by his meditation, his action, his work. But he does not make himself interchangeable the way things do. They replace each other. Insertion of ourselves into the real transcends itself in the constitution of meaning and thus escapes from the real by giving itself up to it: for the meaning of things is not thing, and occupation

with a thing which consists in saying what it is or in doing it, is to go beyond it as a thing.

The problem is, however, to understand why, at a certain moment in the history of thought and of the experience that humanity has of itself, man, disowning this familiarity in regard to the reality in which he lives, has set himself up as separate consciousness, as pure interiority which fashions spectacles and images of an outside which he basically perhaps knows nothing about. The question is: why has the inhabitant of the world (that is, he who forms and transforms it by denoting it) cast himself in the role of a 'connaisseur' who has broken his ties with what he knows? To speak more metaphorically, why does contact pretend to change itself into pure vision and to forget itself, to deny itself as contact?

This transfiguration is itself a sudden metamorphosis in the history of experience. And we can see—we mention this in passing—how the interpretation of experience, lived first and then philosophical, itself becomes an effective movement of experience: just as in a disappointed woman Bovaryism, springing at first from the distance that she assumes in regard to her life and to her 'attitude' *about* it, soon becomes an effective element of her conduct.

The answer is sought by some in Platonism, by others in the medieval concept of the world, or in the development of positive scientific knowledge in the form it assumed after the Renaissance. A more careful study would probably convince us that all these elements have played the same kind of role. But this occurred because, less attentive to the *presence* of things, to this concrete plenitude which, at every moment, is such that 'there is' something real and that 'we are there' with it and in it, man addressed himself more toward that which, *by this presence*, is proffered us. Thus he fixed in *object* (*ob-ject*) what he began to call the 'contents' of experience and, confronted with this reality-picture, with this world-spectacle, he erected himself into subject-vision, without weight or roots, interiority, the more pure, inaccessible and indefinable since it flings away from itself, in the colours or features of the pictures it looks at, everything that might qualify it in any manner. Co-existence and familiarity are superseded by spectacle and image which, in turn, prepare the way for domination. For this subject which *is nothing*, which is never implied in the process, seeks consistency for itself; it could find it only in the real to which it belongs, but since this reality of the present flesh has become a spectacle to watch, the subject will be able to confer upon itself an appearance of being only in the domination and total organisation of what it watches. To

put it concretely: for rationalism, and for modern man who is both its author and product, the human being is himself only in the constitution of science. Without its own resistance, deprived of any 'coefficient of adversity' (unless in the form of a provisional irrational that the modern philosopher and scholar only mention in order immediately to undertake to negate it), the reality-picture is no more than the subject's means of asserting itself in the exercise of omnipotence, which, however, remains in a sense unreal.

We cannot doubt that this is really the spirit of classical philosophy and of modern science, at least in part (we will come back to this). Such a state of affairs opens up perspectives and prescribed tasks to a 'new' philosophy that wants to be truly identified with an explanation of actual human experience. We can understand, for example, its desire to proceed with a 'destruction of classical ontology', if we understand by that an attempt to demonstrate systematically that classical positions are not obvious, that they are not the expressions of a 'natural' metaphysic of reality, an explanation of the original experience that man has of the world and of his presence in it. Existentialist phenomenology, the incarnation of this new philosophy, will try, on the contrary, to bring to light the hidden options, the significant attitudes that the classics assumed, without always knowing it distinctly, in regard to original experience and which led them, during the historical period that is ending, into a way of living and understanding reality that they try to make acceptable as the only possible and true one.

On the positive side, Existentialist phenomenology assumes the task of working out by itself an 'unforeseen' description and interpretation of this original experience, as well as a 'constitution' of the fundamental possibilities that offer themselves on the basis of this experience, for the edification of history and human culture, that is to say, for the development of the relations that man maintains with the world, with others, himself, and Transcendence. Certainly we are aware of the fact that the idea of an 'unforeseen' description evokes objections everywhere which our own thesis apparently only reinforces. Let us say—without starting an argument that has no place here—that by 'unforeseen description or interpretation' we mean recourse to a detached objectivity, which has no meaning *in regard to the original experience itself*, since it defines, as we have already said, just one particular way of developing objectivity, which consists in a certain manner of drawing away from it and of changing it. An unforeseen interpretation would be one that outlines, from the

interior, the structure of this original experience and the fundamental patterns that it brings forward. The difficulty, a considerable but not an insurmountable one, resides in the fact that this description would be itself already the execution of a pattern, and so our effort runs the risk of assuming circular or indeed spiral form. The answer, the substance of which we can only indicate here, would have to take into account that the logic of the understanding, which is based upon original experience but cannot be the basis for it, is uniquely unable to conceive of a middle way between a philosophy absolutely *voraussetzungslos*, that is, which presumes absolutely nothing, and, on the other hand, a purely circular philosophy in the sense above explained. The essential is to be aware of the exact nature of reflexion. That which has been reflected on is not simply identical with that which has not been reflected on, nor is it simply its counterpart. So we come to realise that an explanation of original experience might be both its extension (its effective development in a certain way) and an investigation of it (which would provide us with the means of clarifying all its implications, of perceiving possibilities that have not been realised but that are available to us).

Facts prove that phenomenology has made strides in this direction and that it has attacked, with remarkable success, problems that our theoretical meditation has just now defined and exposed. Husserl's last philosophy, the work of Heidegger, Fink, of Merleau-Ponty, of Ricoeur, of Sartre (at least in its most important aspects), and in more special domains, the work of many others, provide, in spite of, or perhaps because of, their differences and even their disagreements, more than a beginning of the realisation of this hope. The restricted framework of this article makes it impossible to expose the concrete results of all this work. It seems more important, by way of introducing phenomenology, to try to understand its meaning and the place it occupies in the movement of the history of philosophy.

In conclusion, it is perhaps not without interest to go back and discuss a little more fully, for the sake of clarity, certain statements, shocking perhaps at first, uttered by a certain phenomenology on the significance it concedes to classical thought, to positive science and to the civilisation that was their offspring.

We have said that according to that interpretation, modern thought, by its desire to constitute man as pure subject in contrast to pure object, had actually drawn away from original experience, the better to guarantee his domination of it. Thus it builds a world of which we tend to become

the absolute masters, but at the price of a progressive deracination. This would appear to be a hopeless condemnation of all of modern civilisation, which seems to establish a concept and a way of life that is radically unauthentic. Let us try to understand these theses better since they are certainly inadmissible in this summary form.

We cannot deny that the way of co-existence characteristic of original experience is very different from that defined by the attitude of the classical thinker, of the positive scientist, or even of the man who studies the world in order to transform it by technical means. We might even say that these latter attitudes are *not* strictly attitudes of co-existence, but, in very different ways, attitudes of distance and contrast. Yet they are legitimate and have a significance. And this is true for two excellent reasons. Even if we allow that the ultimate meaning of human experience resides in the explanation, pushed ever farther, of original experience, we are forced to see that, in the first place, this explanation is possible beyond a certain limit only by and after the *long way round* of scientific knowledge, only by and after the *detour* of the material mastery of the world; in the second place, scientific knowledge constitutes a *true* explanation of reality in a certain dimension that we will determine. Before developing these two points, we would sum up our general thesis in these terms: scientific knowledge (in the positive sense) and a technical, pragmatic attitude are a negation of the mission and of the meaning that man must achieve in his life *only* if they profess to offer him the only possible access to reality, only if they pretend to reveal to him, exhaustively and authentically, this reality.

Now let us take up again the problems we mentioned above. In the first place, if original experience establishes us in the absolute proximity of things and of others, if it promises their total revelation, we still cannot say that it realises it absolutely. It awaits something more, viz., explanation. But, provisionally and in the beginning, this explanation cannot progress in original experience itself without encountering obstacles that are, at first, insurmountable. For original co-existence, although it reveals, also oppresses. It is true that we lose things when we no longer feel their weight, but it is also true that the heaviness that weighs on us beclouds our sight and constrains us. It is true that we only discover others in the gratitude of love and friendship, but it is also true that this gratitude supposes a real freedom in regard to our surroundings, a freedom which original experience does not afford, or in any case, does not afford for every one. Concretely: it means that it is vain to speak of the authenticity of original

experience as long as the proximity of the real retains the form of slavery and struggle for life. There is a way of being in contact with reality which is just that of the least qualified common labourer, an absolute solidarity with others which is that of the prisoner toward his companions in jail and in misery. These experiences are surely modes of being immediately present to an essential dimension of reality; in this sense they are revealing, but the revelation they bring does not go beyond the experiences themselves; they do not open any avenue, and this is why it is not possible to interpret them. Because we are bounded by what they reveal to us, they make it impossible to become ourselves and, therefore, to be acknowledged. For the constitution of our own being is linked, as we have said, to the progressive unveiling of reality, it is one side of the dialogue that we maintain with things and with others. That is why one dimension of reality that remains closed to any other dimension cannot, by revealing itself to us, contribute to the creation of our own existence.

This situation is characteristic of all forms of original experience insofar as it has not first effaced itself—but not forever—in favour of an experience that assures us a mastery of things. To be sure, there have always been poets, but they never have been understood by every one, and without wishing to impose this opinion, it is permissible to believe that they have not liberated man and that they were able to be poets thanks to the involuntary sacrifice of many other men.

It therefore seems clear that if we assign to humanity, to all men, the task of glorifying the original reality of things by discovering and defining it, we may hope to see it undertake this task—as humanity—only if, beforehand, it has forged, with the aid of science and technology, the means of being entirely free.

The introduction of a scientific idea and method, effective only in the modern sense, entails, undeniably, an absolute withdrawal from original experience. We have given the reason for this. But, and this is the crucial point, it is not necessary to consider this withdrawal a definitive one. Instruments of domination and of liberation, science and technology must be dominated in turn to accomplish their true mission (or, so far as science is concerned, this part of its mission, since there is still another part which we shall discuss). This new victory will be won through conversion to original experience, through the restoration of a relationship of coexistence with things and with others, but which, this time liberated from the obstacles that impeded its progressive development, will be open to an unlimited explanation and unfolding.

This is one reason to believe that scientific knowledge, if it detaches us from what is *truly* real, is nonetheless of immense help in the conquest of this authentic reality.

But there is another reason, at least as serious. We must reject the idea of a scientific conventionalism as well as that of a science that emphasises technique alone. Science is also and mainly, although in a limited way, a valid ontal explanation of reality. To a certain extent, science is an interpretation of original reality placed in such a way that no explanation and unfolding of felt life can refer to it.

We have often repeated that original experience is encounter and co-existence. Thus defined, it naturally transcends any contrast between the subject and the object. But it is no less obvious that a subjective and an objective pole remain discernible despite this unity, certainly not as separate realities, but at any rate as dimensions that can be distinguished abstractly. In this context it is legitimate to speak of a real-in-self, of a subject purely for-self. This real-in-self is not unknowable, and even less so is the subject purely for-self. Surely they do not exist merely as such, since our existence *is* co-existence (although personal co-existence) but they reveal and announce their presence in original experience itself. We may therefore say that they can suggest themselves as a theme for science and speculative psychology respectively. Overlooking the problems (actually extremely difficult) that the methods and language of such a knowledge would raise, we can, nonetheless, try to understand its import. These forms of knowledge strive to explain to us, each in its own domain, an abstract dimension of experienced reality. They refer to the real without being simply revelation of *the* real.

These very summary observations have been written in the hope of showing that the apparently negative attitude toward science and scientific knowledge fostered by a certain phenomenological tendency cannot correspond to the real intentions of the movement. These intentions must not be to build a concrete philosophy (an expression that is literally contradictory) but rather a philosophy that is identified with the explanation of experience. However, as we have tried to prove, the term experience is itself very equivocal. If to exist means to co-exist originally with others and with things, the explicit expansion of this co-existence, which is for each of us *our* being, is, however, only possible by a transformation of original experience, a transformation that assumes the aspect of a detour and then of a return.

The meaning of these turns about and of the contents that direct them must be stated by a philosophy which will have to make use of many languages according to the stage of development to which it refers. It seems to us that the differences that are apparent—and perhaps very marked—in the interior of phenomenology itself—and which provide matter for superficial arguments against it—thus have their *raison d'être*. Just so, the effort that tends to unite these differences into a single intention, that tends to see in phenomenology the pursuit and the realisation of an ambition older than itself, also has its *raison d'être*: to identify philosophy with the explanation of human experience in its entirety. If this is true, if these theses, as we believe, have a basis, it would not be too foolhardy, perhaps, to believe that phenomenology will seem a decisive turning point in the history of philosophy and a form of thought which must leave its imprint on all contemporary philosophy.

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O. W. Richards

AGGRESSIVE AND CO-OPERATIVE BEHAVIOUR AMONGST INSECTS

It has sometimes been said that it is useless to try to prevent wars since man has an ineradicable combative instinct. The term instinct is very ambiguous in its application to humans, and it may be interesting to see what occurs amongst the insects, many of whose species show the highest development of instinctive behaviour.

Many insect species are predatory, but if they depend on other distinct species, the relation is analogous to hunting or to a crude form of agriculture. Aggressive behaviour to be comparable with war must concern the different members of one species. There are many laboratory experiments which illustrate the effects of competition when a population begins to exceed the capacity of its food supply. In Flour beetles, for instance, the adult beetles and the larvae eat any egg or pupae which they happen to meet in their ceaseless burrowing through the flour. There is thus a fixed population density at which eggs are eaten as fast as they are laid. In Grain weevils, the effect of crowding is to reduce the rate at which eggs are laid by the females who appear to suffer from overstimulation when crowded. Other effects, usually harmful, may be produced by the accumulation of the products of respiration or of digestion. Finally, if the food supply is

too small, there will be death from starvation. If, for instance, too many blowfly eggs are added to a piece of meat, the flies produced will either be small, weak, and infertile or, if the excess has been too great, the larvae may all starve when half grown. Thus, a piece of meat which could have produced 100 normal flies may produce none at all if a tenfold excess of eggs is laid on it.

Competition of this sort is much easier to detect in laboratory cultures than in nature. It is difficult out of doors to detect any but the more extreme changes in population level, and these usually only occur at rather long intervals. A number of caterpillars which feed on the leaves of forest trees occasionally become several hundred times as common as they are in most years. Under these conditions large areas may be completely denuded of leaves, and the plague destroys itself. A good deal of mortality, perhaps due to micro-organisms, also plays a large part in the destruction. At much lower population levels it is often easy to demonstrate competition for food amongst insect parasites. In many species only a single parasite can develop to maturity inside its host. If two eggs are laid in one host, only one survives, for parasitic larvae destroy their rivals either in actual physical combat or by chemical action or through changes set up in the blood of the host.

These facts are well known to entomologists, but what is less often stressed is that many species which share a single food supply do not seem to compete because the food supply is in most years greatly in excess of their requirements. Large-scale defoliation, for instance, rarely occurs more often than once in ten years. There are reasons for thinking that the social insects may provide a special case in which competition might be expected to be more severe than it is in many solitary species. In a social species, large numbers of individuals are necessarily concentrated in a small area, and this would be expected to increase competition. In many species a suitable nesting site cannot be found everywhere, and this again may lead to severe competition. The high level of organisation exhibited by such creatures as the ants enables their competition to take on more resemblance to struggles between rival nations than does the starvation of caterpillars or maggots which have overeaten their food supply. The largest colonies of ants and termites are so big—hundreds of thousands to millions of individuals—that it is instructive to see how far the colony lives without internal strife and how it manages to do so.

Some of the most spectacular struggles between social insects occur between different species. Wasps often rob and sometimes destroy weak

hives of honeybees. Some kind of ants live almost exclusively at the expense of termite colonies whose inhabitants provide their food. The notorious driver and legionary ants live exclusively by raiding and have no fixed homes. They destroy all insects including other social species which live within their foraging area. Ants in general are important enemies of other genera and species of their own kind. The native ant fauna of Madeira was almost completely destroyed when a species of *Pheidole* was accidently introduced. Later the Argentine ant, *Iridomyrmex*, entered the island and replaced *Pheidole*. Slave-making by ants, which will be briefly referred to later, is largely an extension of predatory behaviour. These examples of competition between social insects differ only in scale from the hunting activities of solitary species. They have no more analogy with war than does the organised destruction by human societies of wolves or whales.

The colonies of all social insects seem to be families. Frequently, their members are all offsprings of a single female. In some of the South American wasps in which the colony contains many egg-laying females, these are all sisters. Colony-foundation by what are probably unrelated females is rather frequent in ants, but the offspring are all reared together so that the family atmosphere is maintained. The nest itself is the centre of social activity, and in most groups each individual forages in isolation. Only in some ants and termites is co-operative behaviour exhibited away from the nest.

Social insects do not seem to defend much of the territory surrounding the nest as is done, for instance, by many birds. Usually intruders, whether of the same or another species, are repelled only when they actually attempt to enter the nest. At most a few inches round the colony will be defended territory. Away from the nest social insects from different colonies do not normally quarrel with one another, apart from the examples of predation already mentioned. It is probable that four sorts of competition between different colonies of one species of social insect may be recognised. These are competition for nesting sites, for oviposition sites, for food in the nest, and for food outside the nest.

Competition for nesting sites occurs when new colonies are founded and is especially severe in the subterranean nesting wasps and humblebees. Other social species such as wasps nesting on trees, ants and termites, seem normally to have less exacting requirements, and competition at this point in the life cycle has not been detected. The common wasps and humblebees of Europe usually start their colonies in the deserted nests of

rodents, and in many localities these are not sufficiently abundant. Queens which are late in the field often attempt to use sites which are already occupied, and severe combats have been recorded, often ending in the death of one or both queens. In some places these combats seem to have some importance in limiting the number of wasps. In both these groups of social insects peculiar 'cuckoo' species have been evolved, probably as a result of this process. The queens of the cuckoo species are better armed for fighting and emerge rather late in the season. They invade incipient colonies of other species and usually kill the queen or at least establish themselves in the nest. Their own eggs are then reared by the workers of the host species, the cuckoo itself lacking a worker caste.

The nest of any insect, whether a solitary bee or wasp or a social species, may be regarded as an oviposition site. Eggs laid in it will be able to develop on the food which has been stored or on the larvae of the host. In social species such eggs are often reared by the worker caste. In most social insects the defence of the nest against intruders partly serves to prevent unwanted eggs being laid. When a cuckoo female invades a nest, after the initial struggle (which is sometimes only perfunctory) much more severe combats occur when the invading female tries to lay eggs. It seems that it is at this point that the rightful queen is often killed. This reaction to oviposition is perhaps an extension of the normal control of oviposition in the nests of most wasps and humblebees. Usually, there is only one egg-laying queen, and oviposition in the workers is suppressed. But if the egg-laying queen dies or is removed, the workers may at once begin to lay. They do this so quickly that it seems that this function has previously been psychologically repressed by the presence of the queen. If the suppression was physiological, egg laying in the workers could not start so quickly after the queen's removal. The well-known rivalry between the young queens of the honeybee may be regarded as an example of the same sort of behaviour. There are, however, a number of exceptions in wasps, ants, and termites, in which some species have several egg-laying queens in each colony. Why this should be so and why it does not lead to disturbances is not well understood.

Nests of social insects are rich stores of food, of honey in the case of bees, or of vulnerable larvae in all species. These stores are defended against almost all intruders and especially against members of other colonies of the same species. It appears that each colony of a social insect has its own smell so that intruders can readily be recognised. The specific colony smell perhaps develops from the habit of widely sharing all the

food that is brought in. Thus while no two colonies will get quite the same food, the members of one colony will very nearly do so. This, at least, is the best authenticated theory at the moment. Colonies which are split into two acquire different smells in a few months and will then fight if reunited. The robbing of hives by honeybees is a good example of competition for stored food. At times when nectar is scarce, in times of drought, for instance, strong hives will enter and rob the honey of weaker ones. Most examples of raids of this sort in other social insects involve two different species and are not really comparable.

Probably much the most important type of competition is of a more insidious kind, comparable to the replacement of the inhabitants of the Malay Peninsula by Chinese rather than to the replacement of Red Indians by Europeans in North America. A given area can only support a limited number of colonies, and if we consider the ants, in which the nature of the nesting-site is a relatively unimportant factor, it appears that each colony requires a certain minimum foraging area. In fields which are densely populated by the yellow mound-making ant, the nests are found, on the average, to be separated by several feet; the average area required by each nest seems to be about 2.75 square metres. New colonies are founded by queens which are broadcast from the air after the marriage flight, and the spacing out of the colonies is doubtless due to competition. This is not, however, of the obvious kind, and actual combats are rarely witnessed. Probably foraging becomes less efficient as the nest is left farther behind, so that each colony deals with the area it can exploit most efficiently. If the foraging area was too limited, the colony would not flourish and would fail in competition. If two colonies were too close together, the success of one of them might be determined by such factors as differences in the fecundity of their two queens. One colony would either move or die out without any combats necessarily having taken place.

These remarks upon competition might be summarised as follows: Each colony is an isolated defended unit. Intruders of the same or of other species are attacked with varying success. But apart from the attacks of various predatory ants on termites and the raids of driver ants on all forms of insect life whether social or solitary, combats between large groups of workers are rarely observed. Some wasps and bees may be limited by the number of nesting sites, and in them severe combat may occur either between or within species at the time of colony foundation. But perhaps the most wide-spread and effective competition arises from the limitations of food supply which permit only a limited number of colonies to flourish

on any area. This means that anything comparable to war in the human sense is rather uncommon since aggressive behaviour is only evoked in the defence of the nest.

The colonies of social insects vary greatly in the number of their inhabitants. The following figures give some idea of the range. Humblebees, up to 500 but often under 100; honeybee, 50,000 to 100,000; social wasps, very variable according to the species, 10,000 to 100,000, but in the common European wasps (*Vespula*) usually 2,000 to 6,000; ants, a few dozen up to half a million, depending on the species; termites, from a few hundred up to several million. Thus apart from the smallest colonies which mostly belong to the less highly evolved types, the colony varies in number of inhabitants from that of a small town to that of a large city. Any sort of quarrelling or civil disorder in the colony is very rare, and we may well enquire what is the system of government which is capable of eliminating civil wars.

The social life of insects always involves a division of labour. Even in some of the least specialised wasp colonies, in which every individual may, perhaps, be capable of the whole range of specific activity, there is nevertheless a diversification of function. Division of labour may be based on either temporary or permanent differences amongst the members of a colony; usually both are present. Clearly some sort of allocation of duties is almost essential if social life is to be at all efficient. Some individuals forage for food or building materials while others guard the nest or look after the young. In European social wasps such division of labour is very marked but is temporary since the same individual may apparently have different functions on different days. In these wasps, in fact, the only permanent division of labour is between the queen who lays most of the eggs and the workers which do the work and lay few eggs. Even this difference is not absolute since in the early stages of colony foundation the queen does all the work of rearing her first brood unaided. It is only after the first workers have emerged that the division of labour can be established; before that the queen has been behaving like one of her remote solitary ancestors.

The queen of the humblebee founds her colony in the same way as the social wasp, doing all the work until the first brood of workers appears. Amongst the workers themselves, however, there is a rather more definite division of labour. On the whole, foraging is done by the larger and older workers and nursing by the smaller and younger ones. The complete picture seems to be rather complicated, since it seems to be 'physiological

age' rather than actual age which matters, and small individuals are said to grow old more slowly and therefore keep to the nest longer than the large ones.

In the honeybee new colonies are founded by swarms, that is, by a queen accompanied by a large group of workers. Thus the queen never has to run a young colony unaided and as a result has become considerably more differentiated from the workers. She has lost the apparatus for collecting pollen, and her jaws are less efficient as tools; she could not now survive at all in the absence of the workers. The worker honeybee exhibits a well marked division of labour, based mainly upon age. Foraging is chiefly carried out by the oldest workers, and various duties within the hive by the younger ones. The four or five activities which were at one time thought to succeed one another according to a rigid schedule are now known to be less sharply separated. In particular, in abnormal situations, when, for instance, a particular age-class has suffered a heavy mortality, an age-group may change its functions.

The ants are a much more diversified group than the social bees or wasps and show a variety of types of organisation. Sometimes the workers seem to have no permanent division of labour or only a partial one based on variations in size. In other species, the differences in size become more marked and more associated with differences in colour and structure. In the most specialised species the workers exist in two different forms which do not intergrade and seem to have quite different functions. The larger, large-headed 'soldiers' act either in defence of the nest or, in the harvesting ants, as seed-crushers. They may be unable to feed themselves and have to be looked after by the other workers. In a few species of ant, particularly in the well-known *Oecophylla*, the larva also contributes to the welfare of the colony by producing silk with which the workers can spin together leaves.

The termites are very different from all the other social insects both in their ancestry and in the fact that males and females contribute usually to the caste of sterile workers. The developmental stage of the termite is not very different from the adult, though lacking wings, often blind, and with undeveloped reproductive organs. It would seem that in the early stages of termite evolution, the worker caste developed from the young developmental stages or 'nymphs'. This still seems to be true in the less specialised groups, but often the growing nymph can be deflected into either of two directions, towards a 'soldier' or towards a winged adult. Once a certain critical time has been passed, the deflection is permanent, but sometimes

an individual which has developed some way in the direction of a soldier may dedifferentiate and take the other direction. In the more specialised termites there may be three or more lines along which a group of initially similar nymphs may develop. Division of labour appears to be related to these various types which, though partly founded on age and number of developmental stages passed through, also involve important differences in structure.

The type of division of labour which is at present least easy to understand is that which is strictly temporary. Where every individual is capable of all the necessary activities and does indeed perform them in relatively quick succession, how is it that the right amount of effort is expended at any one moment? How is it decided that so many workers should build, while some other number should forage? One difficulty is that there has been almost no investigation so far of the efficiency of insect organisations. We do not know in most cases more than very roughly that the right numbers of workers are engaged in various activities. Occasionally, indeed, two workers may be seen acting in what seems opposing ways, e.g., one building and one pulling down, but this does not lead to combats, and the general impression is one of well-organised work. We can form little idea of how much the organisation might be improved and have really no idea of what underlies it. The sort of factors which in one species or another are known to be operative are: (1) inhibition of worker oviposition by the presence of an egg-laying queen; (2) the stimulation of foraging by hunger (and *vice versa*), which may affect the whole colony if all food is shared; (3) control of the oviposition rate by the number of pupae in the nest, i.e., by the number of young nurses which will be present in the near future. Doubtless there are many more unknown relations of this type, but we do not know how they are integrated into a viable pattern of behaviour.

Differences of behaviour involved in the permanent or semi-permanent division of labour are in some ways easier to understand. If individuals of different ages are in different physiological states, it is not unnatural that they should behave differently. In some ants and termites the castes are as different from one another as different species, and it would be surprising if they did not also differ in behaviour. The problem in this case is how are the castes produced and how is a proper balance between their numbers maintained. Division of labour, whether temporary or permanent, involves 'social regulation', a determination of either the amounts of different sorts of activity or of different kinds of individuals.

It is usually thought that only two sorts of eggs are laid, those that will produce males and those that will produce females. Kerr has suggested that a third, worker-producing type of egg is laid by the stingless bees, but this is little more than a supposition; there is no evidence for anything of the sort in the other social insects. In them, everything suggests that it is the treatment given to the larva which determines whether a queen or one or more types of worker will be produced. The facts are best established in the honeybee where the larvae which will produce queens are reared in special, easily recognisable cells. If young larvae are transferred from queen cells to worker cells (or *vice versa*), the appropriate caste is produced. Queen larvae are fed on 'royal jelly', a glandular secretion provided by a particular age-group of the workers. Worker larvae, after the first three days, are mainly fed on honey and pollen. In some ants there is evidence that development into worker or queen (or sometimes soldier) is determined by the amount of food provided or by the ratio between the number of larvae to that of the attendant workers. This is a characteristic example of social regulation, for a colony in which workers are scarce will tend to produce more workers, and queens will only be produced if the proportion of workers is high. The determination of the worker caste in humblebees and wasps is not understood. The first broods produced consist entirely of workers, but at some point towards the end of the life of the colony queens begin to be produced and from then onwards no more workers are reared. This seems to be partly associated with an increase in the worker-larva ratio but is perhaps also associated with the age of the colony. A few queens are usually produced by small, relatively unsuccessful colonies at about the same date as in the larger ones, though the number of inhabitants may be no higher than that of the large colony some weeks earlier. There is at least a hint in the case of the wasps that some glandular product supplied by the workers may be involved.

The most complex situation seems to exist amongst the termites which have the best developed caste system. They provide the best example of social regulation, for groups of identical young nymphs of the same age if isolated in a cage may produce by 'self-differentiation' all the castes, in about the right proportions. It is known in some species that about one nymph in ten develops into a soldier; if the developing soldier in such group is removed, one of the other nymphs becomes a soldier. Similarly, if the fertile sexual forms are removed, substitute sexual forms are developed. Such facts led to the development of a theory of 'social hormones'.

Termites produce cutaneous secretions which they lick up from one another's bodies. It has been supposed that the secretion of one caste, such as the soldier, might inhibit the production of others of the same caste. One individual would only produce enough secretion to inhibit a small number of developing brothers and sisters, so that the proportion of the castes would be kept approximately in balance. It has proved very difficult to demonstrate the existence of such inhibitory hormones, and many students now doubt their existence. There is, however, no other explanation of the facts available so far.

We thus see that a great deal of the social organisation of insects depends on physiological and sometimes also morphological differentiation. Individuals behave differently and do different work because they are different kinds of individuals, sometimes as much so as two species. In examples of this type the problem is not so much the division of labour as the process of social regulation by which the different types are maintained in the right proportions. Some hints have been given of the physiological mechanisms behind social regulation, but investigations are still really at a very early stage.

The apparently more simple situation in which a number of similar individuals apply themselves to different tasks is harder to explain and it is tempting to assume that there must be underlying but so far undetected differences, at least of a temporary and probably physiological nature. It is a well-known fact that if a group of any non-social insect is put in a simple experimental situation, such as a temperature gradient, not all of them behave alike. Sometimes, indeed, their reactions plot something more like the normal curve of error. Thus an appropriate situation reveals a previously undetected diversity. There is some evidence that the variability which is normal in all animal populations has played a special part in the evolution of social forms. Social life allows types which would be eliminated if solitary (e.g., sterile workers) to survive and play an important part in the colony. There is a suggestion that normal variations in size have been selected out and even increased. In humblebees, competition for food amongst groups of larvae leads to the production of workers of widely varying size. The small individuals which in a solitary species would be at a disadvantage may actually be more useful for some purposes in a colony. There may thus be a selection for any factor which leads to greater variability. On the plane of behaviour a similar process could be at work, though this is admittedly very speculative. It would mean that individuals in slightly different physiological states would

behave more differently than their solitary ancestors would have done. A normal curve of error in behaviour could in this way be changed into a bi- or poly-nodal curve.

Finally, we may consider certain special types of behaviour which are characteristic of some social insects. Most social insects eat some, and sometimes a high proportion, of the eggs they lay. Possibly, this is especially frequent when nitrogenous food is insufficient. It is also a form of social regulation, allowing some young to develop when there is not enough food or not enough nurses for all. Destruction of larvae is much less usual but sometimes takes place, especially perhaps when the colony is senescent and the behaviour of the workers probably abnormal. Termites destroy any individual which is at all damaged, and this may well be associated with the chronic shortage of nitrogen in their diet. These examples of cannibalism suffice to show that the workers, though assiduous nurses, are little influenced by sentiment. The exclusion of the drones in the honeybee after the young queen is fertilised is a striking example of similar behaviour. The drones do no work and consume much food, so that it is logical that they should be driven out of the hive when the need for them is over. It is certainly highly remarkable that instinctive behaviour of this type should have evolved but it has the cold-blooded rationality of many other processes which have been the subject of prolonged selection.

The keeping of slaves by ants has at first sight a striking analogy with the human institution of slavery, but the resemblance is very superficial. The slave ants always belong to a different species from their masters and the relation would be more properly described as domestication or even as a refined form of parasitism. In the Blood red ant, the relationship is still flexible and the slave keeper is quite capable of looking after itself and in some districts does so. The surviving slave workers run the nest and are replenished by raids which the workers of the Blood red ant make on other colonies. The raiders bring back only larvae and pupae and some of these are used as food; raiding for food may, indeed, have been the origin of this behaviour. In the Amazon ants, however, the workers cannot even feed themselves, and their only function is to raid slave colonies. The worker Amazon has evolved into a soldier caste and all the original worker functions—foraging, distribution of food, nest-building and nursing—are performed by the slaves. It is clear from this brief account that slavery in ants is quite different from what it is in man. The slaves belong to another species, and the process is one of domestication.

The resemblances between the social life of insects and that of man are

mostly rather superficial. As far as we know, insect behaviour is almost entirely instinctive. They can only add a little to their innate mental equipment. Most social species can to some extent memorise the topography of their foraging area and some, like the honeybee, can learn to associate particular patterns, colours, or smells with a source of food. Bees and wasps outside their nests always seem to act as individuals. Some ants and termites undertake organised hunting or collection of food but they very rarely seem to attack their own species. Fights between members of one species seem almost always to arise when an attempt is made to invade a nest. This is more often the act of a nest-founding queen than of workers. It seems probable that a species whose instinctive behaviour led it to attack its own species would rapidly become extinct.

Wilhelm Koppers

PRIMITIVE MAN, STATE, AND SOCIETY

Fritz Kern, the well-known anthropologist and historian has stated in his work:[1] 'It is impossible to arrive at a comprehensive knowledge of mankind from any study of history that omits primitive peoples. Once this broad basis of the history of man is given due consideration, we arrive at a *historia perennis* of all human existence.' Though the more general significance of this pronouncement cannot be denied, it becomes particularly valid with reference to the beginnings and primitive forms of man's social and community life. In the following short exposition the main emphasis will be laid on these. It is innate in man to regard the early phases of his own race as something exceptional, one might say something normative. Without doubt this holds equally true for the forms and characteristics of primitive society and of the primitive state, in short, for every aspect of community life as it was at the dawn of man's existence —so far as we can know it.

Two new branches of science can be of help to us within this frame of

[1] F. Kern, *Historia Mundi* (Berne, 1952), p. 13.

reference: anthropology, and to a certain extent, prehistory, the history of prehistoric man.

That the great mass of the earth's so-called primitive peoples cannot be thought of as a homogeneous whole nor treated as such, is a concept now generally accepted. Various peoples and their cultures must therefore be classified historically on the basis of objective criteria. This has not yet been satisfactorily done in all respects. However, it has been relatively easy and simple to study the so-called ethnological primitives who, down to the present day, have best preserved early and original forms of existence. Among such surviving primitives we may cite the Indians of Tierra del Fuego, certain primitive stocks in California as well as in other parts of North America, the Arctic regions and south-east Australia, the pygmies of Central and South-east Asia, and a number of primitive jungle tribes of the Indian peninsula which have only been recently studied. All of these are primitive hunters and gatherers who even today stick to a purely acquisitive economy and who, as the evidence shows, have never had a more advanced form of economic organisation.

The life of the primitive community cannot be understood without knowledge and understanding of the primitive family. All anthropologically established evidence points to the fact that human life began with the *individual family*. This was known and recognised as long as forty years ago by the well-known psychologist, W. Wundt, who stated: 'There is scarcely a discovery in the field of man's evolution which has so surprisingly and so convincingly destroyed opinions hitherto widely accepted, as the discovery of monogamy among primitive peoples.' The facts that have come to light since Wundt's time have in no way weakened his statement. On the contrary. The well-known Danish anthropologist, Kaj Birket Smith, for example, writes in his work:[2] 'We thus proceed from marriage as a universal human institution and one, moreover, which in its most primitive forms does not differ greatly from the institution as we ourselves know it.' As a particular trait of the oldest forms of marriage known to us, mention might also be made of the complete freedom, in most instances, of the marriage partners, not only the male, but also the female. We need merely indicate in this context that in later stages, particularly among more advanced pagan cultures the case is often quite different.

Like the family, it looks as though the state, too, harks back to the earliest days of mankind. Not of course the sovereign state, which owes

[2] Kaj Birket Smith, *Geschichte der Kultur*, 1948.

its existence or its character to later historical events, such as wars, but the simple, I might almost say, naturally developed, primitive state as it still exists in the local group among primitive hunters and gatherers. Such a type of local group ordinarily consists of from six to twenty families according to circumstances.

Let me here point out as a particularly illuminating example an attempt made some thirty-five years ago, which unfortunately had almost no further results. I refer to an essay by the Swiss A. Knabenhans,[3] published in 1919. Although Knabenhans limited his subject to Australia, his findings, as we shall see, have a far wider application.

According to Knabenhans, the state develops organically out of human society, and like it, harks back to the very beginnings of mankind. He rejects the view of those (Ratzel, Schurtz, Oppenheimer, Wundt) who limit the concept of 'state' too narrowly and as a result regard it as reserved for the higher stages of human development. On the other hand, he dissents also from E. Meyer according to whom the state was already in existence in the animal kingdom; while Knabenhans holds (and of course many others as well) that there can be no talk of animal-states except in a metaphorical sense.

Investigation of the question as to who among the Australian aborigines actually represents the state leads Knabenhans to the conclusion that obviously it is the local group. As a matter of fact, among the Australian aborigines, the local group is in the first place 'the only large and permanent organisation outside the natural ties of the family or the clan'. On closer inspection this group is seen to be distinguished by an unequivocal territorial autonomy, by a completely autonomous solidarity in the event of war, and further and above all by a common leadership in the guise of leaders of the group (council of elders) or chieftains exercising various public functions. On the other hand, the tribal organisation and the tribe relationships are much too loose to be thought of as political entities or actually functioning state organisations. Certain ties, particularly those of language and culture, are naturally present, and asserted from time to time, as for example on the occasion of common initiation ceremonies. But with the exception of these, the life of the state proceeds within each separate local group. On the basis of his comparative source material, Knabenhans estimated that the size of this Australian community averages fifty heads, that is, ten to fifteen families.

[3] A. Knabenhans, *Die politische Organisation bei den Australischen Eingeborenen. Ein Beitrag zur Entwicklungsgeschichte des Staates* (Berlin, 1919).

Following Malinowski's well-known and valuable researches:[4] Knabenhans recognises the individual family as a universal Australian phenomenon. But he further states: 'Among the Australians there is everywhere another authority superior to that of the paterfamilias; nowhere is there an absence of what one might loosely designate as a government, and most important of all, we see here no arbitrary rule of the stronger, but a wholly ordered and regulated condition of rule by law.'

Knabenhans expressly inveighs against Wundt, according to whom the essence of the state or the political organisation lies above all in the 'presence of an organised sovereign, collective will with the two-fold characteristic of autonomy in external affairs and authority in internal affairs (a legal system)'. Wundt does not consider these conditions met among the mass of primitive peoples, and accordingly concludes that in their case we can speak only of pre-state conditions. Not until the emergence of the sovereign state, brought into being by wars and other historical events, could any community be looked upon as a state in our meaning of the word. Knabenhans sees the setting-up of this type of condition as an arbitrary limitation of the concept 'the state'. On the other hand, he points out that, on closer inspection, the three criteria set up by Wundt are completely realised in the aforementioned Australian communities, that is, in the local groups. These are then, according to him, to be looked upon as 'small state entities in the process of coming into being'. And the first beginnings of the state hark back clearly not to war and conquest, its origin being already discernible 'in the small, socially organised community of the local group'.

So much for Knabenhans's pregnant and fully illustrated treatment of the Australian aborigines. As I said, it was published some thirty-five years ago. Since then investigations along similar lines have been made on primitive hunters and gatherers which, on the whole, confirm Knabenhans's theories. Here we cannot go into them further.

The primitive state thus recognised and defined does indeed presuppose the existence of human families, but on the other hand, it should not be considered as a mere congeries of families. It represents something new which reaches beyond the individual family. This new thing exists and lives primarily in the knowing and willing of its members, more particularly, the adult males of the local group.

This innate and essential feature of the (primitive) state clearly flows

[4] Malinowski, *The Family Among The Australian Aborigines* (London, 1913).

from the very nature of man. The animal lives its life; the human being leads his life. Thus there arise problems of domicile, nourishment, training of the young, welfare and the like, with which the individual family is not competent to deal, for the solution of which social planning and action are essential. Since the animal has no conception of *family* in any proper sense, we can speak only metaphorically of an animal state, as has recently been convincingly demonstrated by the well-known Basle zoologist and biologist, Adolf Portmann.

Students of law and government consider certain characteristics to be essentials of the state. Let us see whether the more important of these exist in our 'primitive state', the local group.

Authority in internal affairs is inherent in the obedience given to the chieftain, to the oldest man, or to the council of elders in the given case. Here also belongs the punishment of evil-doers of whom there is not infrequent mention.

Sovereignty or *autonomy* also normally inheres in the local group, insofar as it exercises control over its *territory* as its own property, which will be defended at need. Closer study of the sense of property among these primitives has proved that nowhere is the concept of private property so definitely and characteristically developed as on this most primitive level. Even children have control over their own personal possessions—a right which is respected by adults.[5]

Social welfare is administered by the local group insofar as its leaders in time of emergency decide upon changes of location, regulate the division of certain foodstuffs (especially large game), look after the care and feeding of the ailing and orphans, and finally, also undertake the special education and training of the young on the approach of puberty. Together with Professor M. Gusinde, I was privileged in 1922 to take an active part in such initiation ceremonies among the Yamana in Tierra del Fuego. By virtue of these ceremonies we became members of the Indian tribe, and even to this day are not a little proud of our tribal citizenship.[6]

The *system of laws* which obtains in these primitive states is looked upon as *ordained by nature*. Subject to it are not only the ruled, but also the 'rulers'. Whoever in a given instance issues orders contrary to law and custom, must face open opposition and rebellion.[7] Behind this system of laws and the clear awareness of its existence, we can sense that 'natural

[5] W. Schmidt, *Das Eigentum in den Urkulturen* (Münster i.W., 1937).

[6] W. Koppers, *Primitive Man and his World Picture* (London-New York 1952), pp. 140 *et seq.*

[7] Paul Schebesta, *Die Bambuti Pygmaen von Ituri* (Brussels 1948), vol. II.

law' which today is once more, and probably quite rightly, being placed in the foreground, along with the conception of an ethically oriented Supreme Being which, in the course of recent decades, has been shown to be particularly characteristic and lively precisely among ethnologically primitive peoples.[8]

The local group (primitive state) is an *arbitrary union*, in that the administration of the community can assume different forms in concrete instances. Sometimes we are dealing with a permanent group of elders or a chieftain, again, there may be no chieftain, and the council of elders functions only occasionally. But even so the state, even if only latently, is continuously in existence.

Even though the primitive state does not represent a simple extension of the family, there can be no doubt that essentially its disposition towards the family is distinctly favourable. In a way, the motto seems to be: As little state (and as much family) as possible. In this aspect *the family takes precedence over the state*. This is assuredly a significant dictum. In the light of such facts the rights of the family are paramount.

It goes without saying that the simple and uncomplicated external conditions which are the general rule among primitive hunters and gatherers work out to advantage. Of course we must not overlook the fact that ordinarily a majority of the members of a local group are blood relatives. Naturally these ties of blood strengthen the sense of community within the group.

Morgan and his followers emphasise the *territorial* factor, to the exclusion of any other, as the explanation for the origin of the state, because they start out with the notion of a primitive horde in which no family exists. They held that the factor of consanguinity entered into the picture only much later. Today the concept prevails that the territorial and the consanguinity factors are essentially of the same age, and it only remains to say that the primitive state, as discussed above, does not represent a mere extension of the family.

It needs no more than a passing remark in the light of all these new findings, to conclude that in the case of the primitive hunters and gatherers we should not talk about wild hordes or bands nor yet about savages (*sauvages*). After all that we ourselves have experienced in modern times, we Europeans in particular have every reason to be careful how we use the word 'savage' when we are dealing with exotic races and peoples.

[8] W. Schmidt, *Historia Mundi*, p. 411 *et seq.*

The experts in ethnology are today agreed that the oldest groups of human beings of whom we have any knowledge were peace-loving rather than warlike, and further, that such things as cannibalism and slavery were wholly unknown accomplishments.

It becomes a matter of interest to examine how matters stood with regard to the family, community life and the state, in so-called prehistory, especially in the Early Palaeolithic age. Since no direct observation of these problems is possible, the question arises whether anything at all, and if so, just what, can be ascertained.

It is today an established fact that even the oldest prehistoric man of whom science can give us any knowledge made use of tools, weapons and utensils, and naturally, also, constructed these for the purpose. But the quality of being human cannot be split up into parts. The users and makers of these tools and utensils were naturally and necessarily full-fledged human beings, and if so, they must also have been conversant with language, the family, religion, and certainly also with some sort of community organisation. It is extraordinarily interesting that this concept, especially in more recent times, is accepted by various leading students of prehistory in Germany and elsewhere, and that it is also supported from the philosophical-psychological side, specifically, as originated and formulated by Professor R. Meister, by way of indirect documentation.[9]

If now we look back, we shall not be able to deny that the picture which recent research is in a position to draw of the beginnings of man's community life has likeable and appealing traits. Probably most impressive is the fact that in general the primitive state is benevolently oriented toward the *individual* as well as toward the *family*. Actually in these matters the following dictum appears to hold: As much freedom for the individual and for the family as possible, and on the other hand as little state and compulsion as possible.

It would however certainly be absurd to draw the conclusion: 'Back to the primitive state!' To the life of primitive hunters and gatherers. Quite aside from the fact that such a return would be impossible in practice, it would reject the task obligatory upon mankind of always striving for further development in the realm of the material-spiritual. But if in the process, man would permit as much as possible of the *spirit of the primitive state* to come to the fore once again, that would assuredly be to his advantage.

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[9] W. Koppers, 'Zusammenarbeit von Ethnologie und Prähistorie', *Zeitschr. für Ethnologie*, 1953.

Finally, there can be no doubt that a consideration of these findings of recent historical-anthropological research might provide a valuable supplement as well as wholesome correctives to various sociological theories now prevalent. On the one hand, scarcely anything of importance seems to result from setting back into the animal realm the origin of the state (here there is too much danger of being caught in unfruitful analogies); on the other hand, those theories come to nothing which see the state as emerging only later, be it peaceably (theory of contract) or forcibly (theory of compulsion). Rightly understood, the state goes back to the earliest time of mankind, and in saying this we confirm once again the well-known words of Aristotle, the Sage of Stagira, 'From the very beginning, man is not only an individual being, but *zôon politicon*, a social being'.

Gordon Childe

THE POSITION OF

OLD-WORLD PREHISTORY (I)

Part II of this survey will be published in the next issue of *Diogenes*.

This survey of Old-World prehistory may conveniently begin with the melting of the Pleistocene ice-sheets some 15,000 years ago; for the latest enlargement of our knowledge of the evolution of man and of his earliest cultures were very properly included in the 'Panorama of Anthropology' published in *Diogenes* 2. Even with that limitation of range, a survey cannot be a summary. Prehistorical archaeologists aspire to recover the history of preliterate societies all over the Old World during ten thousand years. But not even the history of England in a single century could usefully be condensed into twenty pages. Nor should our panorama be a descriptive catalogue of exciting new discoveries. Striking additions to our knowledge have of course been made during the last eight years both as a result of excavation and to reward less spectacular research in museums and libraries. (For instance, the first object, undeniably manufactured in and imported from Mycenaean Greece to be recognised in the British Isles or indeed anywhere north of the Alps was noticed in 1948 in a Cornish museum where it had been lying neglected for a hundred years since it had been dug from a barrow near Pelynt. Again the oldest metal

helmet found north of the Alps has just been identified by searching through files of German newspapers of 1847!) Some of the finds in question no doubt have an immediate appeal as beautiful or bizarre. Many, including the scientifically most significant, can only be appreciated by specialists or after a tedious technical explanation. Yet some recent discoveries and publications have promoted, if not the final solution, at least the formulation in soluble form, of familiar problems that have preoccupied archaeologists and intrigued historians for nearly a century. I shall therefore try here, after indicating some modern general trends in research, to present the position of those old problems in the more definite and precise form which they have now assumed. Quite a number of new discoveries can then be mentioned in an intelligible context.

I

Over most of Europe and the Near East by 1940 the sequences of cultures (i.e., the relative chronology) had been established with a moderate degree of precision in several provinces, the distribution of contemporary cultures within or between provinces had been determined by pottery or other easily variable classes of artifact. The way was open for a more intensive study of the archaeological units thus defined in space and time, with a view to grasping each 'culture' as a functioning whole, as the—inevitably fragmentary—expression of the activities of a living human society. The effort to achieve this re-animation of mute material objects has not meant, as some feared, neglect of stratigraphy or typology, of the assemblage and ever finer classification of archaeological data. On the contrary it has promoted an exacter discrimination of types, the appreciation of previously unnoticed variations and a more urgent demand for a reliable chronological framework. Nor yet need the 'sociological' approach to archaeology deprive of interest the older issues as social anthropology in Britain has diverted attention from technology. These issues too, as we shall see, have direct sociological implications. At the same time it has once more focused attention on items of equipment that, though connected with the most vital needs of any society, show little variability and are therefore ill-adapted for defining periods of time or distinguishing one culture from another. So Steensberg has written a most illuminating monography on *Ancient Harvesting Implements* (Copenhagen, 1943) and Glob another on Ploughs (*Ard og Plov*, Copenhagen, 1952). A revival of interest in the diet of prehistoric societies has been stimulated; it has led Helback, using Jessen's technique for the diagnosis

of grain impressions on pottery and clay plaster, to most fruitful investigations to which we shall refer again. The same impulse has inspired closer collaboration with natural sciences. In England, a committee of the South-western Group of museums has conducted a systematic petrological examination of stone implements, organised by Stone. This has demonstrated a quite unexpected volume of trade in the British Isles at a time when stone was still the normal material for implements and even weapons, has located factory sites and indicated the routes of distribution. In the same way intensive studies in the field and laboratory by Pittioni[1] and Preusschen have laid bare not merely the techniques, but something also of the structure of the prehistoric copper-mining industry in the Austrian Alps. Hand in hand with this strictly archaeological work have gone renewed endeavours to reconstruct in detail the environment in which prehistoric societies lived. Indeed a Professorship of Environmental Archaeology was established in the University of London in 1945, and rather similar departments have since been instituted in Continental Universities. Pollen-analysis, which in the temperate zone offers the most sensitive instrument for determining climate and vegetation in the past, has likewise received academic recognition. Incidentally by its aid botanists using means proper to natural science now recognise the 'cultural' changes in plant cover due to human intervention four or five thousand years ago.

Prof. Clark's masterly book, *Prehistoric Europe: the Economic Basis* (London, 1952), shows how successful archaeologists have been in conjuring up a realistic picture of many prehistoric cultures as effective instruments for the adaptation of human societies to their environments and even at times in adapting environments to their needs. He profitably appeals to local folk culture rather than to ethnographic parallels from tropical Africa or New Guinea to explain unfamiliar objects that archaeologists dig up in Sweden or Ireland. Indeed Clark succeeds in presenting each of his cultures as a working economy for the satisfaction of socially recognised needs by the exploitation of its habitat and co-operation with other societies. But his very success discloses existing deficiences in archaeological knowledge.

Not even the economy of a society can be understood fully from estimates of the total production, the volume of trade and so forth, without reference to the distribution of the product within the society and the size of the effective market. The evaluation of the economy will

[1] 'Prehistoric Copper Mining in Austria', University of London Institute of Archaeology, *Annual Report* VII, 1951.

depend *inter alia* on the population density it can support together with the trend of the population curve with time. Information on both these points can be inferred from purely archaeological data. Differential distribution of grave-furniture in a cemetery may disclose a contrast between rich and poor while a chieftain's 'palace' should be easily distinguishable from commoners' huts. To estimate the size of a local group you have only to count up the number of contemporary houses in the village or the number of graves in a cemetery or ideally to combine both counts. No doubt the most reliable conclusions could be drawn from a complete settlement that had been totally excavated, to which an exhaustively explored cemetery was attached. I know no example of this happy combination. But total excavations had been conducted with most satisfactory results before 1940 on a very few sites in Britain (Skara Brae and Little Woodbury), Germany (Köln-Lindenthal, Goldberg, Buchau), the Aegean (Thermi), and Iraq (Tepe Gawra). But such excavation is fantastically costly and from the standpoint of museum curators unproductive, so that since 1945 no total excavation has been published outside the U.S.S.R. Moreover, even with such data for the solution of sociological questions a reliable absolute chronology is an indispensable pre-requisite, still more so when only funerary evidence is available. We cannot begin to calculate the size of a population from the number of graves in a cemetery unless we have some idea how long the cemetery was in use. Our estimate of the social status of persons buried in the rich barrows of Wessex or Jutland will be very different if the interments are to be spread over two or six centuries and at the moment the margin of error is of just that order. Thus the new economic and sociological approaches bring the prehistorian back to the chronological questions which have preoccupied archaeologists ever since Thomson converted antiquarianism into a scientific discipline.

II

Chronology is no doubt a forbiddingly technical subject. But a reliable chronological framework within which the duration of archaeological periods can be measured and contemporary cultures compared is indispensable for any solution of the sociological questions just adumbrated or of the older questions considered below. The nature and limitations of the existing system must therefore be simply stated if the reader is to understand the archaeologists' hesitations in answering familiar queries. Stratigraphy and typology have defined successions of culture-periods

in various provinces. They tell us nothing at all about the duration of such a period and hardly anything about the temporal relations between periods in distinct provinces. In the Pleistocene period global changes in climate and sea-level provide an independent geological time-scale against which archaeological periods can be measured and compared. Nothing so comprehensive is available in the Recent. Only in the north-western corner of Eurasia does a succession of climatic phases, detected by the pollen-analysis of peat deposits, provide a coarse chronometer. Indirectly archaeological events can be fitted into one or other of the successive phases termed Pre-Boreal, Boreal, Atlantic, Sub-Boreal, and Sub-Atlantic respectively. In Scandinavia and perhaps Switzerland a simple enumeration of the layers of banded clay (varves) deposited each year by the melt-waters of glaciers should give the number of years since the melting began. With the aid of such varves de Geer constructed a 'geochronology'. Indirectly again the climatic phases should be linked up with the varve series, so that the duration of each could be measured in calendar years and its beginning fixed in terms of our era. In practice there are enormous difficulties in applying this system, and theoretical complications impugn its results so that de Geer's dates are by no means generally accepted by geologists and climatologists. In any case archaeological phenomena could at best only be dated in geochronological terms at third hand.

Hence for all periods since 3000 B.C. archaeologists have preferred to rely on so-called 'historical dates', for expressing in terms of our era the age of archaeological events in the life of preliterate peoples even in north-western Europe. These dates depend on the establishment of synchronisms between prehistoric culture periods and phases in the history of the literate peoples of the Ancient East, China, Greece, and Rome, that can of course themselves be dated from written records.

As a first stage it was assumed that devices created or invented by literate peoples were diffused to and adopted by illiterate barbarians. The emergence of the device in a historical context among the former then gives a *terminus post quem* for the period in which it was first adopted among the barbarians. The initial assumption, seldom clearly formulated, is plainly open to criticism, and applications of it to particular cases have been legitimately challenged in recent years as will appear below. In any case the limits it offers are far too wide. Much more reliable and accurate limits are provided by historically dated manufactures actually imported by illiterate barbarians from more civilised peoples. But such an import

still provides only a *terminus post quem*. We can only guess at the time lag between the date of manufacture and its deposition in a barbarian's grave or rubbish pit. Strict synchronisms are only obtained by cross-dating, i.e., by finding objects manufactured by barbarians at a given culture period in historically dated contexts and civilised products of the latter date in deposits of the same prehistoric culture period. By cross-datings a historical chronology, based primarily on Egyptian records, has been extended to Palestine from 3000 B.C. and the Aegean from 2000 B.C.

Only since 1940 have equally reliable dates been established for temperate Europe and Italy. Mycenaean pottery of the styles current from just after 1400 B.C. reached Apulia, Sicily and the Lipari Islands, and recently Bernabo Brea[2] has found older Mycenaean pottery datable to the fifteenth century in a deeper layer on Lipari. North of the Alps the earliest manufactures to be recognised as imported from the East Mediterranean are segmented fayence beads found in graves in southern England, Brittany, Almeria, near Szeged in Hungary, and in Poland. Unfortunately while the beads from England were probably made in Egypt about 1375 B.C., the date and even the place of manufacture turn out to be less certain than was supposed ten years ago. No such ambiguity attaches to a Mycenaean dagger, dug up in a Bronze Age barrow at Pelynt in Cornwall before 1845, but only recognised as such in 1948. It affords the most satisfactory proof of some sort of trade between the British Isles and Mycenaean Greece. But it might have been made there at any time between 1350 and 1100 B.C. And it dates nothing since the barrow contained no other furniture. Luckily imports from barbaric Europe and particularly from Britain have now been identified in well-dated contexts in the Aegean and give a *terminus ante quem* for the beginning of the Middle Bronze Age. Amber, generally believed to be of Baltic origin, appears in Greece already in the Shaft Graves of Mycenae—1500 B.C. and probably earlier. A gold-bound amber disk, from a tomb near Knossos that Sir Arthur Evans dated about 1425 B.C., may well be an import from Britain since six similar disks have been found in Middle Bronze Age barrows in Wessex. Finally, in 1940 von Merhart recognised that a peculiar amber necklace found in a tholos tomb at Kakovatos in western Greece was identical with necklaces from Middle Bronze Age barrows in Alsace and Bavaria. Necklaces with the same peculiarities were, however, worn in Wessex too during the Middle Bronze Age. Almost

[2] 'Civiltà preistoriche delle isole eolie', *Archivo de Prehistoria Levantina*, III, Valencia, 1952.

certainly they were made in England and exported thence to Greece. Now the burial at Kakovatos took place not later than 1450 B.C. Hence the Middle Bronze Age in Britain and Central Europe must have begun before that date, say about 1500 B.C.

We have to wait nearly a thousand years for an equally reliable date north of the Alps. By the second phase of the Hallstatt period, Iron Age 1, 2, Greek vases of the sixth and early fifth centuries begin to appear in graves and settlements, and thereafter imported Greek or eventually Roman coins and pottery provide a series of accurate dates. The intervening period is still obscure. Safety-pins, spearheads, swords and knives of types appropriate to the end of the Middle Bronze Age in Italy or the beginning of the Late Bronze Age north of the Alps do turn up in Mycenaean Greece between 1350 and 1150. But with this latter date began a Dark Age throughout the East Mediterranean that lasted for four centuries and is reflected in a divergence of the same order in the dates assigned to prehistoric European periods. Dates for the Late Bronze Age and Early Iron Age 1 used to be based largely on types of beaten metal which were common to Italy and Central Europe. Their contexts in Italy are at first purely prehistoric, but the later types should be dated by imported Greek vases found with them. But the earlier Greek vase styles themselves can be dated only by their occurrence on the sites of Greek colonies in Italy, the foundation dates of which are recorded by classical authors; so the argument is almost circular. By according to Italy a priority in the production of the relevant types and by taking minimal dates for the Greek imports, Åberg, Åkerstrom, and Sundwall reduced the beginning of the Hallstatt period to 625 B.C. That left five or six centuries to be filled up with the Late Bronze Age if the Mycenaean parallel be taken to date its beginning. Alternatively the Middle Bronze Age was equally prolonged by putting the beginning of the Late Bronze Age at 850 B.C. Against this von Merhart[3] in 1950 adduced good evidence for the view that much of the bronze ware from Central Europe that had been accepted as of Italian manufacture was really made in Hungary, so that Italian parallels gave *termini ante quos* and not *post quos*, upper and not lower limits, for the periods in which they occur in Central Europe. A year earlier Kossack[4] had pointed out inconsistencies in the short chronology

[3] Published as 'Studien über einige Gattungen von Bronzegefässen' in *Festschrift des Römisch-Germanischen Zentralmuseums in Mainz*, ii, 1952.

[4] 'Problemi cronologici della prima età di ferro in Italia e nell' Europa Centrale', *Atti del 10. Congresso Internaz. de Preistoria e Prgt. Postoria Mediterranea*, Firenze, 1952.

for Italian prehistory and suggested a new spacing that would allow the Hallstatt period to be pushed back towards the traditional date of 750 B.C. and a consequent redistribution of the divisions of the Central and North European Bronze Age. So we are still left with a discrepancy of four centuries with regard to the end of the Middle Bronze Age in Denmark, though the higher dates look increasingly likely.

So even in such favourably situated regions as the British Isles and Central Europe 'historical chronology' has not taken us back beyond 1500 B.C. In upper Eurasia or Black Africa the position is incomparably worse. And nowhere does recorded history reach beyond 3000 B.C.; indeed till 2500 even Egyptian and Mesopotamian dates are subject to a substantial margin of error. Dates before 3000, even if based on the depth of deposits beneath the historic horizon in Mespotamian tells, are just guesses.

Since 1945, however, another natural science, atomic physics, has offered a new prospect of resolving the ambiguities of prehistoric chronology and penetrating beyond the earliest recorded dates. I refer to the radio-carbon method, worked out by W. F. Libby[5] of Chicago. Depending as it does on the amount of the radio-active carbon isotope, C 14, left in a piece of organic matter that forms an integral part of the prehistoric deposit or indeed of the actual artifact to be dated, this method is immensely superior to the indirect methods of geologists and palaeobotanists. On the other hand even an archaeologist can see that the determination of the minute quantities involved must encounter stupendous technical difficulties and hears whispers of theoretical uncertainties. All the results published up to April 1953 are given with 'tolerances' of two to four hundred years plus or minus implying a margin of error of four to eight centuries and would therefore be useless for settling the finer points of Bronze Age chronology. The radio-carbon date for pharaoh Zoser is in glaring conflict with the historical record and with other similar dates for Egyptian samples, and a couple of Danish datings seem mutually contradictory. C 14 dates must therefore still be regarded as provisional though most that can be thus checked agree satisfactorily with the figures based on written records or on geochronology. In the appropriate context we shall quote with due reserve some mean dates, reminding the reader only here that he is free to add or subtract two to four centuries from the figures.

[5] *Radiocarbon Dating*, Chicago, 1952. Some figures used here are taken from a list issued in April 1953.

T. B. L. Webster

RECENT SCHOLARSHIP ON GREEK TRAGEDY

Greek tragedy is still acted in the original and in translations; it has inspired such modern drama as *The Family Reunion* and *La Machine Infernale*; in Norway and France Sophocles' *Antigone* helped to give hope to the resistance. Greek tragedy was produced originally at a religious festival by a poet who was poet, musician, producer, and sometimes actor too. The plays were meant to be seen; they had staging and costumes, dancing, and dramatic technique. They were meant to be remembered; they had language, style, and thoughts which the poet desired to communicate at that particular time. The poet himself knew well the leading artists, thinkers, and politicians of the small society in which he lived. Production, metre, technique, style, and thought are the chief elements which the scholar must study if he would make these ancient plays as intelligible as possible to modern readers.

My purpose here is to draw attention to certain important new documents and to enlarge a little on certain works of scholarship which either mark ground firmly won or point a way for further development. Detailed bibliography with admirable criticism is provided by Professor

Albin Lesky in articles appearing in the *Anzeiger für die Altertumswissenschaft* since 1948. Thus I shall not notice the numerous new texts and editions which have appeared in many countries except to note E. D. M. Fraenkel's edition of Aeschylus' *Agamemnon*.[1] This great work (the commentary amounts to more than eight hundred pages) not only gives the views of a very sound scholar on a great play, which has survived in an abominably corrupt text, but also records very fully the views of his predecessors so that the whole process of argument through the centuries can be observed. Such a labour could only be justified for a few major works; the result is a slice of the history of scholarship, an elucidation of many problems of Greek literature, and a complete (though not final) edition of the *Agamemnon*.

New information about Greek tragedy is due to the papyrologists and archaeologists; the former produce new texts and the latter new illustrations. The twentieth volume of *Oxyrhynchus Papyri*[2] contains a number of fragments of Aeschylus, which still need evaluation. A fragment of commentary shows that the scene was changed four times (Aetna, Xuthia, Aetna, Leontini, Syracuse) in the *Aetnaean Women*, a fine disregard for the unity of place. A lyric fragment has been attributed to the *Egyptians* by M. L. Cunningham (in a forthcoming *Rheinisches Museum*) and shows, if the attribution is right, that the Argive king was killed and that the main chorus was formed, as in the surviving *Supplices*, by the Danaids. It is still more startling to find evidence that the trilogy of which the *Supplices* was the first play was not performed before 466 B.C.; at least twenty years later than the date usually assumed. The notice is fragmentary, and in one line the writer has certainly made a mistake, but it seems unlikely that this notice refers either to another trilogy or to a later production after Aeschylus' death. The evidence that *Supplices* and *Egyptians* were produced with *Danaides* and the satyr play *Amymone* (the two plays whose names have survived in the notice) is good, and all the production dates given in our manuscripts refers to first productions.

It may be possible to find some other explanation of the papyrus, but for the moment it looks as if we must accept the new date, although it goes against the normal opinion that the *Supplices* is the earliest surviving play of Aeschylus and was probably written soon after 500 B.C. The reasons for the early dating are importance of the chorus, absence of prologue,

[1] Oxford: Clarendon Press, 1950.

[2] London: Egypt Exploration Society, 1952.

absence of true dialogue, extreme stiffness of language: criteria which have been used with suitable adaptations to date the undated plays of Sophocles. It has been assumed that the earliest tragedy was something like oratorio and that the surviving plays can be arranged on a line which leads from oratorio to the realistic melodrama of late Euripides. We have accepted a biological scheme from Aristotle's *Poetics* and have applied it to Aeschylus; as one scholar phrased it, '*Stetigkeit der Entwicklung ist ein Grundgesetz hellenischer Art und Kunst*'.

We must ask what has gone wrong because we have used such schemes as the only means of dating undated pottery, painting, sculpture, poetry, prose, and thought. We want to date because, though some works are so great that their date does not matter, most works are more easily understood in their context, and dating establishes their context. The stages of using this method seem to me to be these: First, we make a general assumption of the direction in which the series is going; these general assumptions are normally correct—tragedy does change from oratorio to drama, sculpture does become more realistic. Secondly, we use every external aid we can find to date individual members of the series. Thirdly, we examine these dated members of the series and decide what characteristics in them show the direction that we have assumed and are therefore valid criteria for dating the undated members of the series (e.g., resolutions in the iambic trimeter are thus shown to be significant for Euripides but not for Sophocles). Here we ought to stop and ask whether the works of the tragedians form a series at all: for Sophocles, four dated plays spaced over about 38 years; for Euripides, eight dated plays spaced over about 31 years —these may be regarded as series; but the dated plays of Aeschylus are only spaced over 14 years when he was between the ages of 53 and 67; still it may perhaps be reasonable to regard *Persae* (472 B.C.) and *Septem* (467 B.C.) as middle-aged Aeschylus and *Oresteia* (458 B.C.) as old Aeschylus. Fourthly, we arrange dated and undated works in order by the increase or decrease of the characteristics which we have decided are significant. Fifthly, we decide that this order is the chronological order of their creation.

In taking this last step we have made a further assumption. We have assumed that the creator creates in an absolutely regular way, that each work is an advance on its predecessor in the direction given by a comparison of early and late dated works. No allowance is made for special circumstances, brilliant work, repetitive work, or careless work. It is of course probable that the public—the audience and judges of the play or

the purchaser of the vase or statue—act as a stabiliser; they do not like anything very old-fashioned or outrageously modern, but they only set outside limits beyond which the creator must not go. The creator is a human being at a particular moment of his existence; he may be at the top of his form or he may not (clearly these variations are more important when survival is due to chance as with the alphabetical plays of Euripides or vases from a rubbish heap); he may be excited about one particular side of his work but retain old forms or old ideas in the rest; or he may have chosen a subject which demands a particular kind of treatment. This last, I suspect, is the case with the *Supplices*: the daughters of Danaos must be the heroines and they can only be the chorus; therefore the chorus must take the chief part in the play even if this is old fashioned.

It seems to me therefore that we must be very careful how we take the fifth step. The fourth step gives us a logical order; but this cannot be converted automatically into a chronological order. And in fact two of the sounder stylistic series—the plays of Euripides and the dialogues of Plato—have been shown not to produce chronological series but only groups of early, middle, and late. Suppose that we have arrived at a logical series A–Z of which D, M N, T, are dated respectively 500, 470, 468, and 450 B.C. We must not say that B is earlier than D or that U is later than T; still less must we say that H is about 485 B.C. or that Q is about 459 B.C., and there is no justification at all for reconstructing unknown prehistory on the basis of A. We may say that A–H are probably early, I–P are probably middle, and Q–Z are probably late, if we remember that early overlaps middle and middle overlaps late. But we shall be safest if we only say that B is more like D than M N or that V is more like T than M N.

I have enlarged on this theme because it seems to me of great importance to be clear how far stylistic dating may be trusted. A rather similar problem arises with a curious fragment of a tragedy about the Gyges story, which is related in the first book of Herodotus. In the fragment Kandaules' wife tells how she had seen Gyges in the royal bedchamber and in the morning had summoned him after she had sent Kandaules about his business. This tragedy on a story of palace intrigue was dated by its first editor, E. Lobel,[3] in the first half, and by Professor D. L. Page[4] in the first quarter of the fifth century, but by Professor K. Latte[5] in the third century. Was it by a contemporary of Aeschylus or was it Hellenistic? Both parties

[3] *Proceedings of the British Academy*, xxxv, 1.
[4] *A new Chapter in the History of Greek Tragedy*, Cambridge: University Press, 1951.
[5] *Eranos*, xlviii, 131.

invoke technical arguments from metre. These certainly prove that it could not have been written by Aeschylus, Sophocles, or Euripides. The phenomena on which most stress is laid occur in Ionian writers of the seventh and sixth century (therefore the fragment is early) and in Hellenistic tragedy (therefore the fragment is late). The tragic fragments of the fifth-century Ion of Chios show them in a much higher degree than the three Attic tragedians. At most the metrical argument shows that the new fragment is either non-Attic (early or late) or Hellenistic. We do not know enough to construct a metrical series. We can, however, say that the only three tragedies with historical subjects known from the early fifth century present major events of urgent importance for Athens; there is, on the other hand, some evidence for historical drama in the Hellenistic age, when such themes as Themistocles, Marathon, and Amastris had only a romantic interest, and it is here that the Gyges play probably belongs.

Marathon would seem to be the subject of the *Persians* depicted on the well-known Apulian vase in Naples. I quote this for various reasons: in the first place, an old theory that it is a picture of Phrynichus' *Persians* (a doubtful title anyway) has recently been revived. We are asked to believe that an Apulian painter somehow copied an Athenian painting celebrating Phrynichus' victory some hundred and fifty years before. There is no trace of the style or composition of the supposed original and nothing to contradict the much easier assumption that the painter was inspired by a historical tragedy of about 330 B.C., nor does the Apulian painter try to be accurate in matters of detail; he must not be pressed too far. In the last thirty years we have learned a great deal about Greek vase-painting: the main fabrics and within them the chief painters can be dated with some accuracy. We know also how the vase-painter works, that he may give us anything from picture of a performance to picture inspired by tragedy, and that he is not consistent even within the limits of a single picture. The philologist, who expects to find on a vase a photograph of a first night, is apt either to over-interpret the vase scene or to reject it as useless. But if he is treated sympathetically, the vase-painter can tell us what plays were being acted in different places at different times, and something about stage buildings and costumes. A sketch (necessarily fragmentary because of the fortuitous nature of the evidence) of the history of the production of Attic tragedy and satyr plays in Athens and South Italy could now be written on the basis of the vase material.[6]

[6] For tragedy the latest collection is L. Séchan, *Etudes sur la tragédie Grecque*, Paris: Champion, 1926; for the satyr play, F. Brommer, *Satyrspiele*, Berlin: de Gruyter, 1944.

Much of the vase evidence for buildings and costumes is illustrated and discussed in two recent books by the late Sir Arthur Pickard-Cambridge, *Theatre of Dionysus*[7] and *Athenian dramatic festivals*,[8] although more can still be done by sympathetic interpretation of the illustrative evidence to trace theatre practice in different places down to Roman times. But these two books mark the stage now reached by scholarship on theatre architecture, scenery, costume, acting, actors' guilds, and organisation of the dramatic festivals; the evidence is clearly presented in a manageable form, and sane and sober conclusions are drawn. It is impossible for us to be certain how much of a Greek production was realistic in the modern sense. Nineteen reconstructions of the scenery of ancient plays are given in *Szenenbilder*[9] by H. Bulle and H. Wirsing; these are ingenious and interesting but seem to imply a major change of scene for each play. Pickard-Cambridge reckons that the average time for scene-changing between plays must have been about half an hour; the change therefore, in Euripides' trilogy of 431 B.C., from Medea's palace in Corinth to Philoctetes' cave in Lemnos and then to Dictys' palace in Seriphos cannot have involved major structural alterations: I do not suggest that the Greek dramatist did not make full use of the resources at his disposal (K. Reinhardt has recently interpreted Aeschylus' practice in *Aischylos als Regisseur und Theologe*[10]), but that his resources were limited and his conventions different from ours. The words of the text are not a safe guide; they may either underline or replace scenery or action. The latter point is well brought out by A. Spitzbarth in *Spieltechnik der griechischen Tragödie*;[11] she examines the texts for evidence of gesture, action, mute persons, properties, and representation of emotions; the gestures were presumably made (and it would be interesting to try to equate them with gestures on vases), but smiles, laughter, frowns, and tears were precluded by masks; yet both are described equally fully, and it is perhaps not unreasonable to suppose that the Greek tragic poet wrote for readers as well as spectators.

If the Greek tragic poet wrote for readers as well as spectators, are we justified in supposing that he was more interested in the effect of the single scene than of the play as a whole? Sophocles was interpreted on these lines by Tycho von Wilamowitz at the time of the first war, and insistence on

[7] Oxford: Clarendon Press, 1946.
[8] Oxford: Clarendon Press, 1953.
[9] Berlin: Mann, 1950.
[10] Bern: Franke, 1949.
[11] Zürich: Rhein-Verlag, 1946.

the dramatic effect of each scene marks a recent book by A. J. A. Waldock, *Sophocles the Dramatist*.[12] For Euripides the same line has been taken by W. Zürcher in *Darstellung des Menschen im Drama des Euripides*.[13] Briefly, the author's conclusions are that the minor figures of Euripides are often coloured entirely by the situation in which they appear, and that for the major figures 'Euripides reveals and describes causes and results, expressions and intensities of particular feelings and emotions, but not the secret structure of the soul from which they come nor its inner relations and coherence as a personality'. These particular feelings he sees as part of human nature in general, not of the character of the individual. One feels that Aristotle would have enjoyed this book; the general outlook is so near to his treatment of *dianoia* and *ethos*, and to his conception of tragedy as a piece of rhetoric designed to awake pity and fear. It is true, of course, that we must not ask, as an English scholar recently said in discussing Shakespeare from a rather similar point of view, how many children had Lady Macbeth. The dramatist has given us all the answers that he wants us to have; we must be careful how we fill in gaps and we must refuse to ask what happened before the play began or what will happen after it ends. It is true also that a conception of a drama in which every utterance should be significant and realistic is entirely foreign to Euripides. Medea speaks in high tragic language and appears in scenes composed according to certain rules of which the most important was that they should have the maximum effect on the spectator. But with all these reservations Medea is a great individual whose actions are consistent with her greatness. The spectator (and presumably the reader) had, however, an affection for certain types of scenes, among others scenes of appeal and persuasion and debates. These have been examined by J. Duchemin in *L'Agon dans la tragédie grecque*;[14] the authoress classifies all such scenes in tragedy and arrives at the very just conclusion that Sophocles never uses this form unless a profound necessity in the situation demands it, whereas Euripides, finding it already in existence as a type of scene, introduces it into every piece. The development of the debate scene in comedy is a parallel phenomenon, and in both kinds of drama the cross influence of the law courts and the sophists can be detected.

Of the poet as musician we know little beyond what the metres of the

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[12] Cambridge: University Press, 1951.

[13] Basel: Reinhardt, 1947.

[14] Paris: Belles-Lettres, 1945.

choruses tell us. A. M. Dale in *The Lyric Metres of Greek Drama*[15] has discussed such information as there is about the performance of Greek lyric verse and has introduced a great deal of clarity into metrical questions. This book puts the scansion of choruses on a much sounder basis than before and is laudably sceptical of attempts to reduce different metres to a common denominator or to see metre as directly reflecting the emotions of the words. The vocabulary of choruses and dialogue have been the subject of several recent studies. G. Björck has discussed in *Das Alpha impurum*[16] the use of alpha when according to the normal Attic phonetic system eta would be regular; in the choruses the use of alpha instead of eta is due to the fact that the Attic tragedians, writing in the tradition of Dorian choral lyric, stylise their diction accordingly. In the dialogue this impure alpha occurs in certain words which are borrowed from other dialects, partly because the poets want to avoid Homeric words or colloquialisms, etc. Besides solving this specific problem and giving an immense amount of information about this particular class of words, Björck has a very interesting discussion of poetic language and its relation to colloquial language, which is also affective, and gives a number of hints as to the kind of categories which may be used in a study of style, such as variations of form which make no difference to sense, lack of determination in meaning, creation of new words, influence of context, ex-poetic words, etc. It is to be hoped that Björck will go further and write a history of tragic language in these terms. These categories would have to be used in conjunction with the more traditional classification of words by their forms; a very clean and careful work of this latter kind has been done by J. C. F. Nuchelmans in *Nomina des Sophokleischen Wortschatzes*.[17] Suggestions for a study of tragic language and some hint of the dangers involved are given in Nuchelmans' interesting lecture in *De Antieke Tragedie*.[18] F. R. Earp in his *Style of Aeschylus*[19] operates with the very simple categories, compound words, rare and epic words, and metaphors. He gives statistics, and although the numbers involved are too small to be significant, they nevertheless give the evidence for a fine and sensitive appreciation of Aeschylus' style, which brings out very well the peculiarities of the *Supplices*; it is in language the most mannered and strained play of Aeschylus, but this need

[15] Cambridge: University Press, 1948.
[16] Uppsala: Almquist och Wiksell, 1950.
[17] Utrecht: Beyers, 1949.
[18] Leiden: Batteljee en Terpstra, 1947.
[19] Cambridge: University Press, 1948.

not necessarily be explained as a sign of early date. Earp's discussion of metaphors is chiefly concerned with their use in the different plays, their sources, and the knowledge that Aeschylus has of the world from which he draws them. O. Hiltenbrunner in *Wiederholungs- und Motivtechnik bei Aischylos*[20] examines among other stylistic phenomena the use of imagery to carry an important theme which runs right through a play or even a trilogy. This technique is particularly highly developed in Aeschylus, who thinks in pictures, and it is right to press it. It is not so certain whether it is justifiable to see conscious repetition of imagery in Euripides, and I am inclined to think that R. P. Winnington-Ingram, who in earlier articles has shown his sensitiveness to this element in Aeschylus' style, presses it too far in his otherwise admirable book on *Euripides and Dionysus*,[21] but this is a personal view and may be unfair both to the modern and to the ancient author. The *Imagery of Sophocles' Antigone* has been studied with great sympathy by R. F. Goheen,[22] who employs the technique and (unfortunately) the language of the 'new criticism'. It is concerned chiefly with six main kinds of imagery, military, maritime, imagery of animals and their control, imagery of money and merchandising, imagery of disease and cure, and imagery of marriage. He traces them through the play and shows how they are related to each other and to the characters and at the same time give a frame through which the dramatist intended his work to be seen. The same kind of examination should be extended to other plays. The common factor of all these stylistic studies is the desire to base stylistic judgment on some kind of facts which are communicable instead of expressing them in 'effusive and vague terms of excellence' (Goheen).

A particular section of Euripides' terminology is discussed by B. Meissner in *Mythisches und Rationales in der Psychologie der euripideischen Tragödie*.[23] Meissner examines the psychological terms used by Euripides to discover how far he freed himself from three curiosities of the psychological terminology found in the Homeric poems and much later; the lack of distinction between psychical and physical being (e.g., *phrenes* means both midriff and mind), the absence of a comprehensive word for the soul like *psyche* in Plato, the tendency to speak of the soul as the victim of divine or daemonic powers. In his careful study he distinguishes various levels of

[20] Bern: Franke, 1950.
[21] Cambridge: University Press, 1948.
[22] Princeton: University Press, 1951.
[23] Göttingen: Philosophische Fakultät, 1951.

meaning for each word—anatomical, psycho-physical, purely psychic, and occasionally to denote the result of a psychic operation. He decides that Euripides does occasionally use a comprehensive word for the soul, and defines his position in relation both to the still surviving Homeric view that psychic disturbances were due to the gods or the like and to the new fifth-century view that knowledge of what was right would lead to doing it. This is a very valuable semantic study.

The Greek tragedian wrote for a great public religious festival. He was saying something which he believed to be important, and he had practically no historical sense to delude him into thinking that his characters could be other than his contemporaries magnified. These magnified contemporaries stand in some relation to the gods, and the relation between gods and men established by the three great tragedians is a subject to which I shall return. A less important question to which, however, widely differing answers have been given, is the question of the political relevance of Greek tragedy. It is quite clear that in Aeschylus' *Supplices* the people of Argos behave like a democracy, and the king, who is necessary because of the heroic setting, acts as a constitutional monarch (the implications of this for Greek political history have been shown by V. Ehrenberg[24]). In the *Oresteia* again it is clear that, as Solmsen says in *Hesiod and Aeschylus*,[25] 'Aeschylus sees Athens' contemporary situation *sub specie aeternitatis*', and this is true both of the Argive alliance and of the judicial function of the Areopagus; the Areopagus is given a sanction as a murder court and nothing more, because its other functions had been recently removed by the democracy. Reinhardt[26] seems to me to draw the line entirely correctly when he refuses to find any criticism of Hiero of Syracuse in the *Prometheus* but recognises that Okeanos is drawn as a naïve fellow traveller and Zeus as a tyrant. Similarly Ehrenberg[27] in a forthcoming book discusses the relation between Sophocles and Pericles on the basis that in a small town where everybody of consequence knew one another Sophocles inevitably coloured Creon in the *Antigone* and Oedipus in the *Tyrannus* with traits derived from Pericles, but that we are not therefore justified in seeing a portrait of Pericles in either Creon or Oedipus. To draw portraits (or caricatures) of public figures was the task of comedy not of tragedy, and for this reason it seems to me unacceptable to find a connexion

[24] *Historia*, 1950, pp. 515 *et seq.*

[25] Ithaca: Cornell University Press, 1949.

[26] *Op. cit.*

[27] *Sophocles and Pericles*, Oxford: Blackwell, 1954.

between Pericles and Zeus, Prometheus and Protagoras in the *Prometheus*, or between Pericles and Eteocles, Themistocles and Polynices in the *Septem*; to identify Sitalces of Thrace with the hero of the *Rhesus* or the plague at Athens with the sickness of Phaedra in the *Hippolytus* is unjustifiable. The Greek tragedian may consciously or unconsciously have coloured his mythological figures and events with traits taken from contemporaries and events, and the audiences may have seen a political allusion rightly or wrongly; but there is no evidence that he produced political allegory. We can only accept political allusions when they are forced on our notice like the Argive alliance in the *Oresteia* or the plague in the *Oedipus Tyrannus*; we must not search them out. It is distressing to have to abandon a clue which would help to date a unique play like the *Rhesus*, but we must sadly admit that if in fact the subject suggests an interest in Thrace, Thrace was as interesting in the fourth century as in the fifth, that the metrical peculiarities tell us nothing if the play is not by Euripides, and that in fact we have no clue except the general feel of the play.

However doubtful we may be about the poet's political allusions, we cannot doubt that he represents a relationship between god and man. Aeschylus' general position is clear, but one particular problem has always been troublesome: how is the Zeus who tortures Prometheus in the *Prometheus Bound* to be reconciled with the just governor of the Universe, whom we apprehend in the hymn in the first chorus of the *Agamemnon*. The solution escapes us, because we only know the barest outline of events in the *Prometheus Unbound*, and we can only guess whether these two plays were preceded or succeeded by another play or not. It is certain that Zeus and Prometheus were reconciled but quite unclear how the whole sequence is compatible with the theology of the *Agamemnon*. Two recent books have included a considerable treatment of this problem, the two books already mentioned by Solmsen and Reinhardt. For Solmsen, who considers in full detail what Aeschylus derived from Hesiod and Solon, 'the Zeus of *Prometheus Bound* is not Aeschylus' Zeus at all but the Zeus whose manifestations he found recorded in the *Theogony*'. The Zeus of Hesiod's *Theogony* is, however, also the father of Justice and of the Graces (*Charites*), besides being the conquerer of the Titans. Solmsen suggests that Aeschylus saw the change from one state of affairs to the other as a development in time and that the emergence of justice took place during the reign of Zeus, not at its beginning. Solmsen has in fact supported with new arguments the view that the reconciliation

with Prometheus is due to a development in the character of Zeus. But it is this development which is so hard to accept: W. Dekker,[28] whose position is very near that of Solmsen, makes this clear when he says that the idea of a gradual development is not on the whole a Greek idea, the Greek demands concrete beginnings. Reinhardt looks for a solution in quite a different direction. He says that the peculiarity of the gods is not that they develop but that they show two faces. Then the *Prometheus Bound* shows the cruel face and the *Prometheus Unbound* the gracious face. This conception is found at the end of the Zeus hymn in the *Agamemnon*; the words may be paraphrased, 'there is something which we may call the grace of the gods, although in their majesty they steer human affairs by force'. (And we may recall that the sixth century statue of Apollo at Delos carried a bow in one hand and little statues of the Graces in the other.) Our only guide here is the *Oresteia*, and it provides several points of contact besides the Zeus hymn: the contrast between Apollo's severity to Orestes in the *Choephori* and his protection of Orestes in the *Eumenides*, the conflict between the young gods and the old gods (who speak of the young gods in the same terms as Prometheus speaks of Zeus), and the sudden reconciliation of the Furies achieved by Athena's whispered word. Some such sudden change in Prometheus and some such revelation of the other face of Zeus seems more probable than the development of Zeus, but only the discovery of essential fragments of the later play or plays can bring certainty.

For Sophocles the question which has been recently debated is the relation between gods and men. The texts are not in doubt but the interpretations differ widely. An extreme view was put forward by W. Vollgraff:[29] Sophocles is an anthropocentric individualist, his gods are the gods of mythology and play the part which we assign to 'circumstances'. A somewhat similar line is taken by C. H. Whitman in a clever and interesting book.[30] He summarises his analysis of the plays in finding four 'levels of moral activity among which the plot creates the tragic tensions'. They are first, the sheer immorality of the clearly bad characters, second, the every-day, maxim-guided chorus and the neutral characters; the third level is the level of the hero himself, whose *arete* 'is human because it is moral but its existence creates a process of becoming divine'; the fourth level is Deity itself; because it is above morality as it is above humanity,

[28] In *De Antieke Tragedie*. See *supra*, note 18.

[29] In *De Antieke Tragedie*. See *supra*, note 18.

[30] *Sophocles*, Cambridge (Mass): Harvard University Press, 1951.

the relationship is one of keen life-and-death conflict. The whole interpretation is a violent reaction against the traditional view that Sophocles believed in the gods and that his great heroes suffered because of some flaw in their character. Whitman is entirely right in emphasising the greatness of Sophocles' heroes and interprets them admirably, although I am not clear how many of them are great morally besides Antigone, or what the process of becoming divine means except in the obvious instance of Oedipus in the *Coloneus*. It is also perhaps oversubtle to see in Oedipus' suspicion of Teiresias and Creon clear-headedness and shrewdness but to find the same behaviour in Creon in the *Antigone* symptomatic of the tyrant; it is reading rather more into the character of Oedipus than these particular lines warrant. Oedipus is a great, dynamic figure, and Sophocles meant him to be seen as such; but innocence seems to me a difficult word to apply to a man who in anger killed an old man for refusing to get out of his way and who without any foundation suspects his brother-in-law of plotting against him. However, the innocence or guilt of Oedipus have long been argued and will continue to be argued. Whitman is more revolutionary in his view that the Deity is above morality (or, as he phrases it in some passages, the Deity seems to be synonymous with irrational evil) and that the chorus represents the somewhat confused morality of the bourgeoisie. There are two distinct points; first, the Olympians who appear or are mentioned in the plays are conventional symbols of an a-moral Deity, and secondly, the attribution of justice to the gods is a sign of bourgeois morality in the chorus. Whitman has therefore to explain away the tradition that Sophocles was the most pious of the Greeks, that he housed the god Asklepios when his cult was introduced into Athens, and that he received heroic honours after his death, and to disregard the special function of the chorus, inherited from Aeschylus, of being the poet's mouthpiece. J. C. Opstelten in his *Sophocles and Greek Pessimism*[21] comes near to Whitman's portrayal of Sophocles' heroes when he says that the greatness of the hero, who desires in all circumstances to maintain the *arete* of his personality, makes a contrast full of tragic irony with the mental blindness which surrounds and isolates him, as he proceeds on his way to realise the insignificance of all human existence. Opstelten however accepts the normal view of the utterances of the chorus, and believes that Sophocles feared and honoured the power of the gods without calculating or investigating their behaviour. For Opstelten

[21] Amsterdam: North-Holland Publishing Company, 1952.

then Sophocles' gods are real but Sophocles has shifted the emphasis from human guilt to human suffering. The behaviour of these gods has to be accepted piously; the interest lies in the suffering and particularly the delusion of the great and lonely human hero. Opstelten's problem is to decide whether Sophocles can rightly be called a pessimist, and he examines all passages which speak of the suffering of the innocent or the insignificance of human existence, notes their context and their tone of grief, bitterness, or resignation. Whether pessimism is a good word to sum up Sophocles' awareness of the fragility of human greatness, does not greatly matter; Opstelten has grasped the truth that Sophocles' work was also an aesthetic and religious victory over pessimism.

Interpretation of Sophocles' views starts from the certainty that in all his plays a great personality is seen suffering and that this suffering is part of a scheme at least foreseen by the gods. This is a certainty, however much the emphasis on men or gods may vary in different interpretations. Interpreters of Euripides have no such certainty to start from, and his plays leave far more doubt as to whether he was a rationalist or an irrationalist, in what sense he believed in the gods, and whether he was primarily a dramatic poet or a thinker. A. Rivier's *Essai sur le Tragique d'Euripide*,[32] which is written with charm and enthusiasm, marks a revolt against the many interpretations of Euripides which have stressed the thinker at the expense of the dramatic poet. The essence of a dramatic poet is his power to organise his stuff so that form and content harmonise perfectly. The correct procedure therefore is literary analysis directed first at those plays in which Euripides has shown himself most successful: *Alcestis, Medea, Hippolytus, Iphigenia in Aulis, Bacchae* (a list with which all would not agree). As a result of this analysis Rivier formulates Euripides' views about the gods as follows: 'The gods are perhaps cruel, they are terrible to men; but see they act, they exist; one must therefore fear them, worship them, and try to live without provoking their anger', and in another place, 'Euripides does not attack the religion of the myths, he affirms it in its essence and even in its mystery'. If this means in any literal sense, as it seems to do, that Euripides believed in the personal gods of mythology, it is an oversimplification of the evidence.

Quite apart from the various attitudes of characters to the gods—the piety of the unawakened Ion, the criticism, scepticism, and rationalism which is voiced by others—the gods themselves appear on the stage in

[32] Lausanne: Rouge, 1944.

different guises, as even a superficial consideration of Artemis and Aphrodite in the *Hippolytus*, Dionysus in the *Bacchae*, Hermes in the *Ion*, Athena in the *Trojan Women* will show. 'Thus, while Apollo (or Hermes or the Dioscuri, or even Hera) is mainly a figure of mythology and a butt of satire, other gods have both real and mythological aspects, both valid and necessary to the understanding of the plays.' These words are taken from an early chapter of R. P. Winnington-Ingram's study of *Euripides and Dionysus*.[33] This book is a study of the *Bacchae* in the form of a running commentary with introduction and conclusion; the commentary shows great sensitiveness to the language of the play, to the intricate themes which are interwoven in its texture, and to the dramatic effect of each situation both for itself and in its relation to the play. In one way it is something of an experiment, which is my reason for placing it as the conclusion of this summary: 'since I hope that some Greek-less readers may be interested, I have quoted in translation'. This then is a work of very detailed scholarship, which may nevertheless be appreciated by the Greek-less reader; the technique might well be extended to other plays. Here I only wish to say a few words on the general conception of the play and more particularly the view of Dionysus, which the author propounds. The play is not primarily concerned with an ecstatic cult either in Macedonia or in Athens, although recent religious phenomena in Athens may have given it a topical interest. The play is relevant to all emotional religions and, more widely, to the phenomena of group emotion in all social and political life, and finally to the power of emotion over the isolated individual; all these things are the work of Dionysus. The Theban Bacchanals (Agave and her sisters) represent (like the isolated Pentheus) the suppression of emotion; the Asiatic Bacchanals (the chorus) represent the exclusive cult of emotion; both lead to much the same results, which may be either an ecstasy of peace or a fury of violence. All these characters—particularly the Bacchanals, the priest Teiresias, and the puritan Pentheus—claim to have wisdom in regard to Dionysus, and all their wisdoms are variations of misunderstanding. The play as a whole communicates the wisdom of Euripides, the understanding of the beauty and the horror which are interdependently called forth, if individual or group submits to the untrammelled emotion symbolised by Dionysus.

So we end with the interpretation of god as a symbol, and such an interpretation is fully justified in the late fifth century. There are many

[33] Cambridge: University Press, 1948.

parallels at a time when thinkers are feverishly making new abstract concepts and fixing them by personification or identification with existing divine or heroic figures. The past had made the myth to explain a ritual by which the strength of the god was converted to human purposes. Euripides interpreted it as a story of the effects of emotion, and Dionysus plays his part as the personification of emotion. It was not irreligious to present such a play at the god's own festival because it gave the god a reality which the intellectual Athenian could recognise and we can still appreciate today.

REVIEWS

CLAUDE LEVI-STRAUSS ON
R. GEDDES LARGE,
HAROLD BAYLEY, ANNA BIRGITTA ROOTH AND
A. M. HOCART

LOUIS RENOU ON
SARVEPALLI RADHAKRISHNAN

Claude Levi-Strauss

THE ART OF DECIPHERING SYMBOLS

(in Four Lessons, to be Followed or not to be Followed)

Soogwilis, a Collection of Kwakiutl Indian Designs and Legends
BY R. GEDDES LARGE
Toronto: The Ryerson Press, 1951. Pp. 87 and 33 coloured plates by Charlie George.

The Lost Language of Symbolism
BY HAROLD BAYLEY
n.e., London: William and Norgate, 1952. 2 vols. Pp. ix–375 and pp. viii–3,888, 1,418 illustrations.

The Cinderella Cycle
BY ANNA BIRGITTA ROOTH
Lund: C. W. K. Gleerup, 1951. Pp. 269 and xvi inserted recapitulated pictures.

The Life-Giving Myth
BY A. M. HOCART
Edited, with introduction by Lord Raglan. London: Methuen and Co., 1952. Pp. 252.

These four volumes, reviewed together solely because of their respective publication dates and their vaguely related subject matter, represent, for the reader interested in myths and symbols, just so many exercises in style that are not equally commendable. In each we find a different lesson which, for the sake of simplification, we will designate respectively as a lesson in innocence, a lesson in impudence, a lesson in science, and a lesson in imagination. This is perhaps the proper order to follow, although we feel a slight uncertainty in regard to the relative position of the first two.

Let us begin, nonetheless, with a lesson in innocence. Doctor R. Geddes Large is a physician, the son of a missionary, born and raised in British Columbia where he still practises. Among his father's papers he discovered native designs which the author, still living, was quite willing to explain verbally in terms of the myth that he had intended to illustrate. The text and the three-colour designs comprise the substance of *Soogwilis*. We should not

expect from such a work any effort to be scientific. It is difficult to say whether this is a myth or a series of disconnected stories, united artificially for a particular purpose; inversely, the chapter headings seem arbitrary. Neither is it known whether the text was assembled in the English or in the Kwakiutl language; there is no philological or critical apparatus; finally, the explanatory notes are preposterous. But the author makes no scientific claim for his work, and we would be wrong to reproach him for not going beyond the limits he set himself. His work is that of an honest man who feels sympathy for native thought and endeavours and who, quite simply, would like to preserve that part of them which happened to come into his hands. We might seek to defend him, if there were any need to, by pointing to the theoretical problems his work raises: although these texts were collected unscientifically (or at least presumably so) they do form an intelligible and perceptive account as myth, even for the reader utterly ignorant of the civilisations of the North-west Pacific coast. This should be sufficient to indicate, if it were necessary (but all of classical mythography is there to prove it), that myths cannot be assessed in terms of linguistic documents: they are *stories*, and their essential reality resides in a succession of events that can fit into any linguistic framework without losing their ability to communicate. This is not the place to discuss so immense a problem; let us merely emphasise in passing that even the least satisfactory mythography can still make a useful contribution to an exposition of the radical difference that exists between a myth, on the one hand, and a poem or a novel on the other. Without becoming absolutely false, the maxim *traduttore traditore* reaches the extreme limit of its validity in relation to myths.

Soogwilis poses another curious problem that has to do with illustration. In the very rapid evolution of art in the Pacific North-west—so closely related in many respects to that of modern occidental art: suddenness of changes, unpredictability of stages, close dependence on economic conditions—Charlie George's designs certainly reveal decadence: vulgar composition, brutal colouring, eclecticism. Nevertheless, they do show some originality (of the kind that one finds in the collection of unpublished graphic documents of the illustrious and lamented Franz Boas). In either case we are witnessing one of the first opportunities for natives to make use of a piece of paper for their designs. All the art of the North-west coast is based upon the free recomposition of themes, in terms of the object to be decorated. Human or animal reproductions are skilfully distorted in order to achieve a kind of compromise between the form of the subject and that of the plastic support: box, weapon, receptacle or bracelet. By offering a sheet of paper to the artist, that is, a surface instead of a tridimensional body, a new problem is added to the traditional ones; he might have solved it either by adopting perspective and illusion to preserve his relative fidelity to the subject, or, on the contrary, by greater freedom in regard to the latter. This is what he decided to do: the artist arbitrarily redesigns the animal that he had chosen to reproduce, his main

concern, apparently, being to cover the surface. We therefore have here a rather exceptional case, where the introduction of an occidental medium does not disrupt the native tendency (at least in this regard), but inclines him more markedly in the direction that was already his.

In regard to myths and symbols, Mr. Geddes Large's innocence therefore is richly informative. Can we say as much for impudence? Actually, we may speculate endlessly on the reasons that prompted the editor of *The Lost Language of Symbolism*, originally published in 1912, to produce a new *facsimile* edition; one wonders even more at the enthusiastic reception given it by the English-speaking public, since there have been three successive editions since 1951.

Doubtless the author's rambling remarks are charming in themselves; and the beginning of this enormous work (almost 800 pages) attracts the reader by its poetic flavour, which encourages him for a moment to look forward to the sort of treat offered in a book like *The Golden Scarab*, where erudition led to adventurous exploits upon unforeseen paths. Judge for yourself: Mr. H. B.'s principal thesis is that the technique of water-marks that appears in the paper industry in western Europe at the end of the thirteenth century is the secret conservatory of an emblem of gnostic and mystical inspiration, by means of which the Cathari and the Albigensians could have preserved, throughout their persecutions, the secret information of which they were the guardians. This ingenious theory is appealing; we are all set to participate in a grand treasure hunt with the help of ancient magic scrolls. But this takes us a short, or rather a long way round. Actually, on the basis of some fifteen hundred summary sketches of water-marks that are neither dated nor documented as to their origin, Mr. H. B. indulges, for the space of eight hundred pages, in the most frightening free association that literature, insofar as it is classified as mentally sane, has probably ever known. Each motif is interpreted, at times in a plausible and at others in an arbitrary fashion, and serves as the point of departure for a prolonged reverie in which the initial thesis seems completely lost from sight and the author's whim alone prevails. Unfortunately, Mr. H. B. has linguistic whims, and each letter of the water-marks that he chances upon provides material for extravagant manipulations of great virtuosity that permit him, by relating Indo-European, Sino-Tibetian, Amer-Indian and other languages, to attain an original symbolism of phonemes. We know that Mr. H. B. is neither the only one nor the first to have succumbed to this fascination for which linguistics—but not this one—may some day succeed in providing a valid basis.

If such a work is not completely disregarded, but remains, in spite of everything, worthy of attention, it is because it constitutes—in itself and by virtue of the large audience that it has found—a first-rate psycho-sociological document. Who will write a monograph on the innumerable readers of *The Lost Language of Symbolism*? And who will analyse the intellectual mechanisms by which Mr. H. B. produces symbols with such inexhaustible generosity? In

both cases, doubtless, a valid contribution to the theory of thought would result. In quite another sense than that of innocence on which we have already commented, impudence can also teach us something.

We almost do an injustice to *Cinderella Cycle* by Miss Rooth by placing its analysis alongside a study of the preceding work. For, although erudition plays a big part in both cases, we move from chaos to moderation, from fantasy to exactness. We know that Cinderella is the only popular tale that has been the object, in the past, of a monograph that was then considered exhaustive: *Cinderella* by Miss M. R. Cox (Publications of the Folk-Lore Society, vol. xxxi, 1892) is based on about three hundred and fifty variants. It called for a great deal of courage and daring on the part of Miss Rooth to re-examine a subject already so thoroughly explored, to introduce a new methodological spirit in her study and to bring to it new material. She has certainly succeeded, at least in this last respect, since she has collated three hundred and fifty variants besides those already examined by Miss Cox.

Miss Rooth's great originality in regard to fundamentals reveals itself in the fact that she considers the tale of Cinderella in its most limited form (for France, this means the already quite complex *Cendrillon—Peau d'Âne* group) as a western European aspect of a more archaic and larger totality. The traditional Cinderella (the only one studied by Miss Cox) thus becomes a type B, born of primitive type AB from which also a type A had been isolated. The latter would be characterised by the theme of the helpful animal, killed by the stepmother and from whose bones a miraculous gift accrues. There are no traces, in this type A, of the elements characteristic of type B, that is, the tests, the ball, the seduction of the prince, and gratitude in the form of a privileged object. But Miss Rooth demonstrates in a very convincing way that a type AB, doubtless originating in the Orient, integrated the two series. Finally, she isolates a new type C, in which the heroine is replaced by the hero and which might also be archaic.

This rich material is the object of a triple scrutiny: from the point of view of types, from the point of view of motifs and of motif-complexes, and finally from that of tradition-areas. And it is here, perhaps, that one might formulate some reservations.

First of all, Miss Rooth's method claims to be a structural one. As a reaction to her teacher, von Sydow (to whom the work is dedicated), she insists upon the necessity of studying fairy tales as organic totalities formed by constituent units, themselves structured. ('The tale must be studied as . . . an organic unit consisting of smaller elements, themselves organic,' p. 26.) Therefore she articulates the tales in 'acts', motif-complexes and 'motifs', the latter being entirely elementary in character (p. 32). All this is very good and is inspired by the methodology of Troubetzkoy and Jakobson (structural linguistics). With the difference, however, that in the latter case, the logical analysis admits of an experimental verification, which is not attempted here. On what basis is one to separate acts,

complexes, and motifs? The criteria that Miss Rooth adopts are all the more vague and impressionistic since she readily understands that the analogy between the study of tales and that of language must be placed on the very highest plane: 'A comparison may be drawn between the motif-complex and the structure of a sentence—the subject, predicate, etc.' (p. 32). And so we find ourselves right away on the level of grammar, that is to say, on a level where structural linguistics is still feeling its way, seeking its own criteria and hardly in a position to instruct others by its example. Only one thing is certain: comparative grammar knows very well that it cannot make use of the categories ('subject, predicate, etc.') that Miss Rooth would like to borrow from it. Despite Miss Rooth's good intentions her method is therefore vitiated from the start, and for two reasons: she either did not wish or did not know how to draw from this initial research the methodological data indispensable to the elaboration of a structural grammar; and above all, she did not dare to go to the end of her hypothesis, which was to isolate, on the level of the tale, an element (from the methodological point of view) comparable to the only linguistic one that strictly deserves the name: the phoneme.

We must seek the reasons for this timidity in the author's deep interests. Despite her initial gambol down the path of structuralism, she is above all an historian, mindful of geographical distributions and of centres of diffusion. But, although the major portion of her work is dedicated to research of this nature, the value and influence of which we do not question, she does not go far enough even in this direction. From time to time, of course, she intersperses her discussion with anthropology; thus, we read with interest her observations on Oriental costumes and feasts (pp. 75–78) and on traditional ideas associated with the shoe (pp. 103–9). But how can one validly determine the origine of the theme of the helpful animal without comparing its tradition-area to that of the double burial (first the cadaver, then, after the corruption and the corrosion of the soft parts, the skeleton) of which it seems to be the memory—or the justification?

Finally, there is a much more serious objection and one which, over and above Miss Rooth, questions the value of all folklore study as it is now being conducted. Miss Rooth's research takes her from Portugal to China; she adduces, at times, African examples. But, except for European importations, she resolutely ignores the New World. Yet the tale of Cinderella exists in America, though doubtless in an imported form. But below these recent and easily identifiable versions others exist, incontestably indigenous, formally related to type B, but wherein, just as in Miss Rooth's type C, the protagonist is a man—Cinderella—a male endowed with a symmetrically corresponding name: Fire-Boy, Poker-Boy, Corncob-Boy, or even quite literally, Ash-Boy. This inversion of the sexes obtains in other domains: the name and attributes have a phallic connotation, just as the feminine names of Cinderella (Miss Rooth demonstrates this in convincing fashion, cf. pp. 110 *et seq.*) refer openly

to sex; the American hero is characterised by his short shock of hair, just as Cinderella is by her long hair; he is an orphan and lonely while she is endowed with a second family. And both of them make a fine marriage, they are 'masters of the animals' and 'masters of the morning dew'. How can Miss Rooth permit herself to ignore this type BC, whose isolation in the western hemisphere (as well as its diffusion from one end of the continent to the other) vouches for its archaic character?

Undoubtedly it is fashionable today to treat America as an isolated continent (since historical Europe ignored it until 1492, how could others have had the bad manners to be aware of it?); all resemblances between the myths of the Old and New Worlds would thus be sheer coincidences. But even this caution discredits the very basis of Miss Rooth's method. For you have to choose between two things: either the parallelisms and the symmetries between the Eurasian Cinderella and the American Cinderella can be explained on the basis of chance; and then why would the same not hold true for the resemblances noted within the Eurasian area which are certainly not more striking and from which Miss Rooth nevertheless derives all sorts of conclusions as to the centres of origin and the avenues of diffusion? Or else, resemblance means kinship, and the proposed historico-geographical pattern falls apart because of the neglect, on the other side of the Pacific, of a mass of types and variants whose integration would have profoundly modified the configuration of this pattern.

Had Miss Rooth been more of a structuralist and less of an historian to begin with, she would have first attempted to establish a typology. And since at this stage no hypothesis of contact is implied, she would have had no reason to neglect the American facts. But then she would have noticed that types B and C are linked functionally, i.e., that the inversion of the sexes is accompanied by the inversion of other motifs. Consequently, group BC must be treated as an organic whole. The fact that this game of seesaw is strikingly illustrated in examples borrowed from two widely separated areas—western Europe and North America—and that all the forms discovered in the interval seem composite or intermediate, certainly raises a problem. It can be handled in either a structuralist or historical spirit or in both simultaneously. But the world-wide phenomenon cannot be ignored.

Despite her immense erudition and her many ingenious insights, despite even the ephemeral light she sheds, Miss Rooth lacks that special intuition and subjectivity the abuse of which we have criticised above in Mr. Bayley's work, but which remains indispensable for any study of mythical thought, even though it be in homeopathic quantity. It is not enough to affirm superficially and from the tip of one's tongue that myths are everything; it is not even enough to convince oneself of this by accumulating tiny objective facts, for when you build a wall of bricks, they do not solder of their own accord—cement has to be added. Actually, the mythologist lends himself to a very dangerous game if he does not know when to stop: to place his own

intellectual mechanisms at the disposal of the traditional pattern, to let it live and perform that mysterious alchemy that gave it solidity and permanence throughout continents and millenia. Whether he rejects adventure or does not know how to dominate it, two forms of failure lie in wait for the scholar, and they are exemplified by both Miss Rooth and Mr. Bayley. But we hasten to point out that these authors cannot be judged on the same level. Miss Rooth has made innumerable contributions to knowledge; she only went half way, while Mr. Bayley went irretrievably astray from the very outset; he had taken too strong a dose at the beginning.

If we devote a few lines of this too lengthy essay to a little work mainly composed of reprints of rather inaccessible articles written by the late A. M. Hocart, it is because in all of them one perceives that inspiration that is lacking in *Soogwilis* and in *Cinderella Cycle* and of which *The Lost Language of Symbolism* only offers a comical caricature. Mr. Hocart was one of the most amazing figures of contemporary anthropology: this colonial administrator was rich in inspiration and experience but he had little else. His erudition was vast but uneven, and it consisted of poorly related knowledge. His technique and intellectual activity always gave proof of a certain rusticity. Hocart was a kind of 'Sunday painter' of anthropology, the sort whose work—as it sometimes happens—overflows with animation, invention, sometimes even genius. Around a few simple ideas, but very new when he first formulated them—unity of the myth, of ritual, and of social structure; divine origin of royalty, importance of the notion of reciprocity for interpreting primitive institutions—he discovered relationships between very distant and apparently heterogeneous costumes, resolved traditional difficulties, and provided material, generally not too delicate but always rich, for theoretical reflexion.

All these impressions are once again verified in reading *The Life-Giving Myth*. Assuredly interpretations are often over-simplified; and one is frequently exasperated on realising that Hocart displaces problems he claims to solve. It is true that he confuses 'logical necessity' to which he aspires (p. 28) with historical relationships which in themselves admit of no definite explanation. But at a time when easy solutions were rampant in many countries, such as the 'primitive mentality', which had to be renounced by its author himself at the end of his life, it was a great virtue to give credit to native thought, as Hocart systematically tried to do. He was not afraid to become identified with myths while undertaking to dissect them. After reading the three works which we discussed above, we come back to Hocart with pleasure to remind ourselves, apropos of Mr. Geddes Large, that a long familiarity with natives does not allow us to dispense with science; apropos of Mr. Bayley, that even the study of myths requires common sense; and finally, apropos of Miss Rooth, the most serious of all our authors, that a grain of slightly mad recklessness might, in this domain as in others, be the price you have to pay for great and noble findings.

Louis Renou

PHILOSOPHY EAST AND WEST

History of Philosophy: Eastern and Western

SARVEPALLI RADHAKRISHNAN (ed.)

London: Allen and Unwin, 1952. 2 vols. Pp. 617 and 462.

The manuals on Indian philosophy, very rare until about thirty years ago (you still had to rely on Deussen and Max Mueller at that time), have multiplied since then. The years between 1922 and 1925 saw the publication of the first volume of Dasgupta's study as well as of Radhakrishnan's, of the shorter treatises by Masson-Oursel, by Grousset, and by Otto Strauss. Slowly it became clear that philosophy was not the monopoly of the Greeks and their successors and that, since the beginning of historical time, India in particular had handled in its own way and most worthily the notions which form the nucleus of our own speculations. It will become increasingly more difficult to set aside the role of India when a world-wide picture of the facts is to be presented.

Nevertheless it must be admitted that at first sight this task is hardly encouraging: while thought in the West continued to enlarge its domain, adding new outlooks with every new century, the limits in India seemed to have been fixed once for all at some point, somewhere near the Christian era: speculation remains fixed at pre-established categories, thus presenting a picture of a kind of timeless and relatively impersonal scholasticism. This scholasticism —and here we find a strange paradox— has given rise to action more directly and more intensively than anywhere else. Here in India, metaphysics have become the foundation of vitalism: in

the ancient ritual speculations or in the health religions that took their place, the Absolute becomes less a matter of knowledge and cognition than one of acquisition, of realisation by men who have created for themselves—by dint of following various teachings (some of them most astonishing)—the conditions of identification with the Absolute. In short, India has continued to envisage philosophic research as the quest for the immanent 'divine', even in systems like Sāṁkya or Mīmāṁsā which are considered atheistic.

Another difficulty facing us is the fact that a large number of philosophic terms are hardly translatable; to render a text faithfully it is necessary to weigh it down with Sanskrit words (since Indian thinking is directly or indirectly an expession of Sanskrit). The reader is asked once for all to suppose that there is an equivalent word in our languages. To summarise: whereas the accounts of Greek thought, for example, show new methods of investigation in every instance, while they underscore this or that revelation of new facts, the treatises dealing with India, no matter whether they are more or less scholarly, all resemble one another.

The book under consideration here, nevertheless, has its own special qualities. It is above all, a collective work; almost all the available Indian specialists (except for the regrettable absence of Professor Dasgupta) have been enrolled under the leadership of the most famous among them, S. Radhakrishnan. Only occasional chapters, such as those on Jewish or on Arab thought, on China (outside of Buddhist China) or on Japan have been entrusted to foreigners. S. Radhakrishnan himself has undertaken to write the pages dealing with Saṁkara, the great vulgariser of the classic Vedānta. He has also written the general conclusion to both volumes while the preliminary discussion on the 'meaning of philosophy' was entrusted to a well-known statesman and scholar, Maulana Abul Kalam Azad.

The novelty of the book consists in the fact that for the first time all of Western philosophy is reviewed by Indians and from an Indian point of view. It is a reassuring thought that in a country where the teaching of our languages and literatures (with the exception of those of the Anglo-Saxon countries) is so rare and so ineffectual, the history of our philosophies could find such excellent interpreters. This does not mean, however, that volume II, 'Western', is as valuable as volume I, 'Eastern'. The authors have been forced to allot to the former its proper short space: certain important names, certain intellectual movements are missing. It appears also that some of the writers have been hard pressed to free themselves of points of view all too obviously of English or American origin. In these learned contributions, brilliant though they are at times, the most disappointing thing is that they do not convey that kind of shock which should result each time when a familiar idea is interpreted by minds formed by an entirely different tradition. A certain conformism has left its mark here as elsewhere.

While 400 pages have been set aside for the West, the treatment of India alone takes up nine tenths of volume I, i.e., 550 pages—a compensation for

long neglect! This gives the authors the opportunity to expand on the 'sectarian' movements of the Middle Ages, each of which has its philosophic superstructure. Social and political aspects have not been neglected, nor have the discoveries of Indian science in the past. Such inclusiveness is indeed quite justified, for there is a unity in the various manifestations of the Indian genius, which becomes apparent only when various departments of knowledge are patiently set side by side. It is well known that religious facts (many of which, to put it more correctly, are magical) are inseparable from speculative trends. It is even regrettable that no space was found for 'applied' Yoga except where it appears in the special guise of tantrism. The most carefully composed chapters seem to me those on Mīmāṁsā, on Śāktaism, on the Buddhistic movements of the Great Vehicle, on the Mahābhārata, insofar as the standard text is concerned. In spite of certain prejudices manifested in the treatment, there is also much to be learned in the chapter on Mathematics.

One might have expected to find in these two volumes a kind of confrontation, not so much for the purpose of revealing some sort of *philosophia perennis* (a relic of theosophy) as to note, in any given case, the filiations and the mutual indebtedness of one and the other of the major fields and, secondly, to establish convergences and parallelisms, which may be useful if they are divorced from any attempt to demonstrate their significance historically.

This objective has been only partially realised. The problem of indebtedness is particularly hard to solve in philosophic discussion. In Greece, for example, it would have been more fruitful to establish a positive correlation in the realm of Neoplatonism than in the deceptive interpretations of Phythagorenaism: yet the author of that chapter has not raised this point. On another level, there arises the question of the possible reciprocal interpenetration of Sūfism with Vishnuite mysticism and medieval Sivaitism: here too the author has failed to throw any light on the problem. Nor has the writer of the chapter on Nietzsche and Schopenhauer brought any new insight on this point which he touched only casually, referring to Schopenhauer's reading of the Upanishads and to the emotional reaction they aroused in him.

There would be much to say about Stoicism, Pyrrhonism, the Epicureans, and the possible contacts of all of these systems with certain Indian speculations; but these movements are not touched upon in volume II, and we have to look for the name of Epicurus in the chapter devoted to Cārvāka in volume I. On the other hand, resemblances receive better treatment wherever they pertain to Asia: a full chapter, abounding in precise facts, is devoted to Indian influence on Chinese thought.

As for convergences, they are, of course, innumerable, provided that they are considered apart from the heterogeneity of form. The writers of this work have noted a certain number of them, beginning with Permenides who is likened to Sankara, down to Bradley, compared with the defenders of the 'Void' in the Great Vehicle; and to the thought of Benedetto Croce,

whose affinity to the anti-metaphysicians of early Buddhism had previously been shown by Dasgupta. The systems of Spinoza, of Hume, of Berkeley would have invited other comparisons. On more solid grounds, one might have expected a comparative treatment of the atomism of Greece and that of India, and, where the work of Kautilya is discussed so extensively the name of Machiavelli should not have been omitted. In the last analysis, it is rather in the details that suggestive comparisons come to light, as, for instance, where the Absolute according to Hegel is defined as *Brahman* 'wrapped in *Māyā*', as a *purusa* combined with *praktri*; or where the theory of error of contemporary logicians is explained by certain theses of the later Vaiśesika, or even where, referring to Marxist thought, the writer notes a precedent in the school of Nyāyā.

Fortunately the collaborators on these two volumes do not exaggerate the well-known tendency, according to which ancient India is the precursor of this or that particular achievement of the West; only the chapter on Mathematics, praised above, goes somewhat too far in this direction. Naturally the influence of European thought on contemporary India is duly noted. M.P. T. Raju writes (p. 304):

> Among the academical philosophers, the practice of approaching the Advaita from the point of view of Western idealism has gained strength. Instead of expounding or interpreting Śamkara, they develop a line of thinking found in Western thought and reach the Advaita conclusion. Professor K. C. Bhattacharya is the most well-known of this group of thinkers. He starts from Kant's agnosticism regarding the Supreme Ideal of reason and shows in what sense one can be conscious of Brahman. Obviously consciousness here cannot be ordinary cognition but what Radhakrishnan calls 'integral intuition'.

Even outside academic circles in India modern thought is widely cultivated in the direction of Western ideas: this is a matter of course with Tagore, but even in Aurobindo (with his theosophical postulates) a synthesis is apparent in which the share of the Orient is not always predominant in spite of appearances to the contrary.

The work is soundly planned as a whole, and, in spite of possible reservations, it gives a representation of lasting interest. The editor, S. Radhakrishnan, has summed up certain valuable conclusions. He says, in fact, that the concordances are considerable, that the differences lie rather in the manner of presentation, in the emphasis placed on this or that element, than in the basic foundations of the doctrines. As he testifies to the preponderance of scientific thought which aims at finding laws and tendencies in harmony with the development of scientific knowledge, he demands a total philosophy based on the realisation of everything that 'is without us, of what is within us, of what is above us' (p. 440). 'Philosophy, which is the fruit of contemplation ... is the sign of freedom in a world of necessity, freedom in the very awareness of bondage' (p. 441). From a short but decisive comparison of certain

parallel movements in the East and the West he derives the lesson that 'we must now get back to this fundamental wisdom which has been obscured and distorted in the course of history by dogmatic and sectarian developments. We must get back to the primal sources which are not necessarily what was in the beginning but what is eternally present' (p. 447). And finally, 'We must strive to be human in this most inhuman of all ages' (p. 448).

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Mr. Fourastié's original field of interest is rather technical and his early publications deal with questions of insurance and accountability. From there his studies expanded to include problems like the influence of technical progress on the professions, rents, profits, economic crises, and living standards. In short, he has attacked the roots of the economic and social problems of our time.

Mr. Fourastié's published works include: *Machinisme et Bien-être* (1951); *Le grand Espoir du XX^e siecle, Progrès technique, Progrès économique, Progrès social* (1949); *La Comptabilité* (1943); *l'Economie française dans le Monde* (1945); *La Civilisation de 1960* (1947); *Les Arts ménagers* (1950); *La Productivité* (1952).

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WILHELM KOPPERS was born in 1886. He studied philosophy and theology, and was awarded his Ph.D. in anthropology and Indology. Since 1913 he has been a regular collaborator of *Anthropos*, a journal of which he later became the Editor. He is the founder of *Wiener Beiträge für Völkerkunde und Linguistik* and of *Acta Ethnologica et Linguistica*. Together with Professor Martin Gusinde he visited the Tierra del Fuego in 1921–22, and in 1924 he took up teaching anthropology at the University of Vienna. In 1935 he became Full Professor at that same University, but went into pension, temporarily, for the period from 1938 until 1945. During 1938–39 his research took him to Central India. He is a Member of the Austrian Academy of Sciences.

Professor Koppers is the author of numerous scientific writings. The economic systems of primitive peoples; the

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